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The Photographic Times



An Independent Illustrated Monthly Magazine Devoted to
The Interests of Pictorial and Scientific Photography.
THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION.
39 UNION SQUARE. NEW YORK CITY

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THE PHOTOGRAPHIC TIMES

Volume XXXVIII.

JUNE, 1906.

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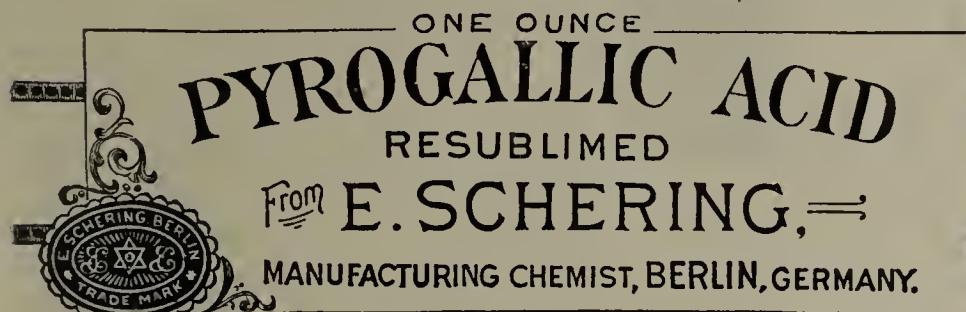
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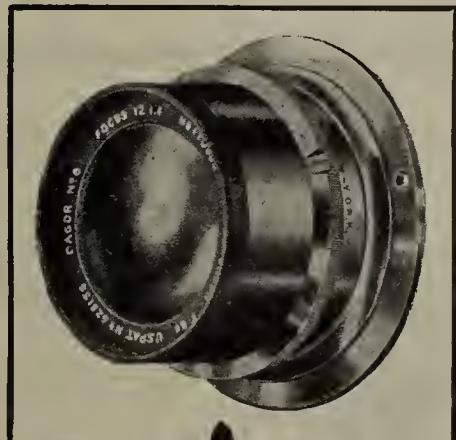
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By Bertram C. Wickison.

THE DRINKING PLACE



THE PHOTOGRAPHIC TIMES

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No. 6.

ELEMENTARY OPTICS OF PROJECTION

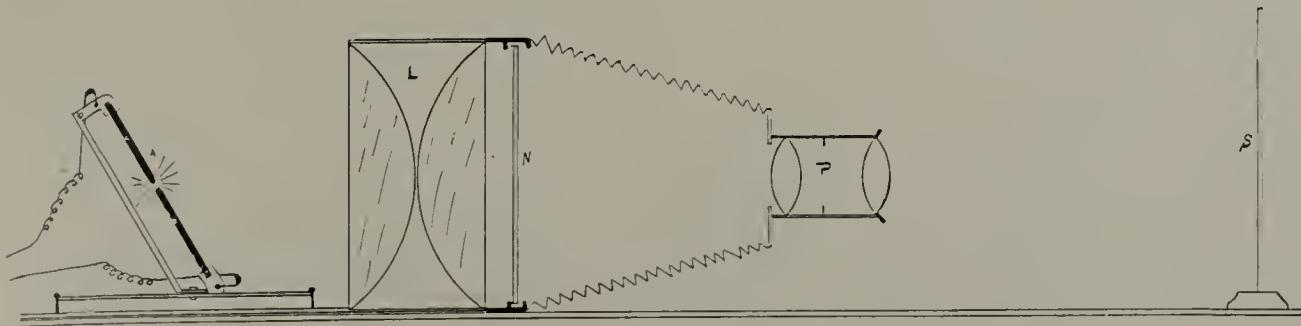
BY C. H. CLAUDY,

THE days when a projection lantern could only be owned by the club, on account of expense, has gone by. Every year sees new instruments put on the market at lower and lower prices, until now it is possible for many amateurs to own their own lanterns, adapted for both lantern-slide projection and for enlarging. Very serviceable instruments can now be bought for twenty dollars and upwards, surely not a prohibitive price when the cost of photographic apparatus proper is remembered. And any amateur who can afford an anastigmat lens, at from fifty dollars up, can probably afford a lantern, if his desires happen to run in that direction. Just as any one who can focus a picture on the ground glass can use an anastigmat as well as a rectilinear, so any one who can see can make some use of a lantern; equally obvious is the reverse,—just as the user of the anastigmat who understands what he possesses is better able to get out of his lens what is in it, so is the lanternist who knows something

of the principals underlying projection, able to do more satisfactory work with the lantern. This applies, perhaps, more to enlarging with the lantern than in projecting slides, for a reason which will appear later on.

Of what does a projection lantern consist? First, a source of light, second, a pair of condensing lenses, third, a means for holding a negative or a lantern slide near these condensing lenses, and fourth, a projection lens. These various pieces of apparatus are suitably mounted and connected,—the light in a light box, the condensers in a ring or other mounting, the projection lens at the end of a bellows the other end of which is connected with the slide or negative holder.

Reference to Figure One will make plain the relation between the parts. *A* is an electric arc-light, mounted so as to be movable to and from the condensing lenses *L*; *N* is the negative or slide in this holder and *P* is the projection lens at the end of the bellows. *S* is the screen on which the lantern picture, whether from slide or negative, is to be thrown.



Of course no attempt at proportion, in drawing this diagram, has been made. Now for the function of the parts. The light, of course is the medium which produces the picture, the negative or slide interrupts part of the light and by throwing shadows, forms the picture, and the projection lens forms the image on the screen just as the photographic objective in the camera forms the image on the ground glass; only in the one case the image is formed from direct light, shining through slide or negative and in the other by reflected light from the object, shining through the objective onto the ground glass. There remains for consideration the condensing lenses, and it is this part of the outfit which is sometimes misunderstood and consequently used wrongly.

The condensing lens, we are told "collects light from the source and condenses it." This is illuminating, no doubt, but hardly explicit enough. The light from the source,—electric arc, Welsbach gas, incandescent electric light, acetylene, etc., falls on the surface of the lens and is collected by the lens, condensed, and passed on to a certain point on the other side of the system, where it forms a real image of the source of light, just as a photographic objective does of a candle flame, viewed in focus on the ground glass. But the condensing lens forms a much more powerful image, in point of brightness, than any object lens could do, for condensing lenses have an "F" value which is unthought of in photographic objectives. If a pair of condensing lenses, of say six and one half inches diameter is set up before a hole in a dark screen covering a window, a picture of objects outdoors will be formed about three inches from the glass, thus giving the "F" value of the condensing lenses as less than "F" $\frac{1}{2}$.

As might be imagined, the picture thus thrown on the improvised screen is very

imperfect; and indistinct, owing to the utter absence of all corrections,—in fact, no means are known by which a lens of such speed can be corrected for optical faults,—if there were such means, snap shot work at night would be perfectly feasible. And the image of the source of light in the lantern, formed by the condensers on the other side of the system is also imperfect and not sharp, but it is an image, for all that, and at its point of greatest definition is the point of greatest illumination formed by the condensers.

If you will recall an old optical formula, used in copying, that the distance of lens to object and lens to plate must be the same, and double the focal length of the objective for same size copying, you will understand why the source of light in an enlarging lantern is usually in the neighborhood of six inches from the condensers in a four by five lantern, which uses condensers of three inch infinite focus. You will also understand why the proper length of focus of the projection lens depends upon the size and focus of the condensers as well as the character of work to be done with the lantern, for the real image of the source of light formed by the condensers should be thrown directly into the projection lens. Now we all know that when an enlargement is to be made, its size depends on the distance of the lens from the screen, and from the negative to the lens. The greater the first distance, and the less the second, the bigger is the image. The nearer the screen is to the lens, and further away the lens is from the negative, the smaller is the image. Now it is obvious that if the real image of the source of light is to be kept on the projection lens, that when the latter moves, the real image must be made to move also. This can be accomplished either by moving the condensers or the light, and for mechanical convenience it is us-

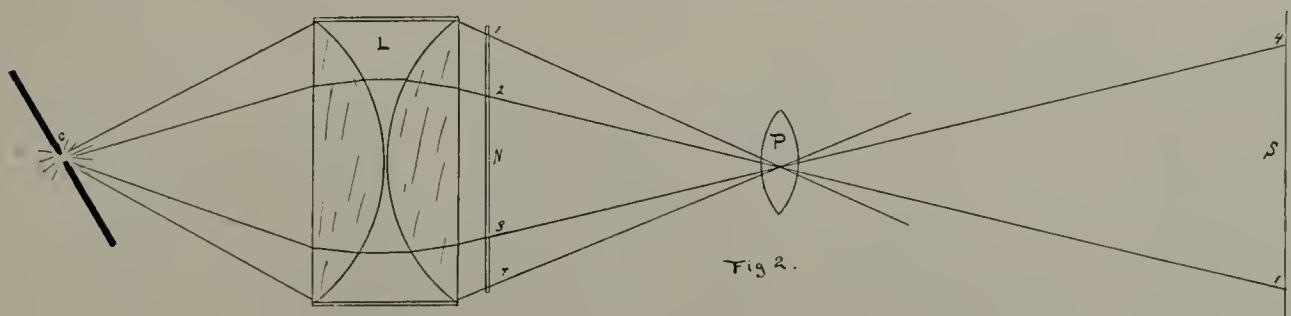
ually the light which is moved. Presumably it is obvious why the real image of the source of light must be kept on the projection lens, but in case that point is missed it should be understood that while there is light, of a sort, both before and behind the point of focus of the condensers, that point of most perfect focus is the point of most brilliant and most even illumination. This, of course, is what is wanted and wanted in such a position that the projection lens will be able to make the most of it. It is nearly as important to have the light source carefully centered with the center of the condensers, as it is to have it occupy the proper conjugate focus. Consequently, all good lanterns will have a means for raising and lowering the source of light, and swinging it from side to side as well as a forward and back movement. Luckily for lantern users, the adjustment of the light and the focus of the condensers is not a difficult or a mathematical operation, but a matter of good eyesight and care. When the negative is put in the carrier, the first thing to do is to focus the image on the screen, approximately the size desired. The negative carrier should then be removed, and the condensers being clear of "sweat," the light is moved to and fro, up and down, etc., until the most even illumination and the brightest circle of light is secured on the screen. The real image of the light source is thus thrown into the projection lens, without any further adjustments being necessary,—the fact that the illumination is at its best showing that the real image is where it belongs. Inas-

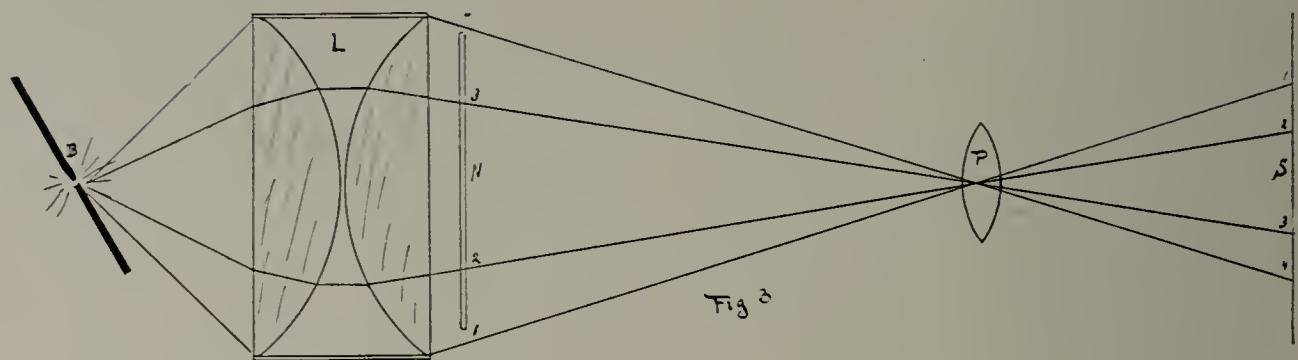
much as the condensers form but an imperfect image, and one not sharp, there is considerable latitude of movement of the projection lens without materially altering the illumination, but when any great change, say a diameter, is made, in the enlargement, the condensers should be refocussed by again adjusting the light.

In lantern-slide projection, the relation of the light to the condensers once fixed, for any given distance, of course remains unaltered for the evening, or for any number of performances where the distance from lens to screen is the same. It was to this I had reference in saying a knowledge of projection optics really applied with more importance to enlarging with the lantern than to lantern-slide projection.

Figure Two and Figure Three are designed to illustrate graphically the adjustment of light to condensers and projection lens. In Figure Two the light from the arc C passes through the condensers L and the negative N to a focus in the projection lens P , from which it is thrown on the screen at S . The points z and β , in the negative are here shown enlarged at the points i and β on the screen.

Referring now to Figure Three, we find a different condition,—here the projected image is smaller than the original. The light B is closer to the condensers L than in Figure Two and consequently the image of the light is brought to a focus at a point further away on the other side—here shown at P , occupied by the projection lens. This arrangement re-





sults in a small image being formed on the screen S , the points $1, 2, 3$ and 4 on the negative N becoming closer together on the screen, instead of further apart as in Figure Two.

From Figure Two it is easy to see why a condenser a size larger than the diagonal of the plate it is to cover is required. Usually a lantern to project from four by five negatives will have six and one-half inch condensers. Now the diagonal of a rectangle is found by extracting the square root of the sum of the squares of its long and short sides. Thus, the square of 4 is 16 and of 5 , 25 , —their sum is 41 , of which 6.4 is the square root (exactly, the square root of 40.96 .) In Figure Two we see that when making an enlargement, the rays from the extreme edges of the condensers do not pass through the corners of the negative, nor could they do so, unless the negative were in actual contact with the glass. In both figures, also, I have drawn the negative smaller than the condensers. As I have shown, in a four by five with six and one-half inch condensers, the diagonal of the negative is the diameter of the condenser. On the other hand, it is seldom that the entire image on a negative is wanted for enlargement, so perhaps the extra expenditure for larger condensers is not justified.

Before leaving the subject, it may not be amiss to report a question recently asked me, and the answer I gave. I was

asked for some advice as to the purchase of a lantern, and in giving it, advised the purchase of the projection lens listed with the outfit. My questioner objected; "That lens costs, by itself, ten dollars. It works about F 6. I do not see how such a cheap lens can possibly throw up images either sharp or undistorted. Can you explain the anomaly?"

My answer was to the effect that a portrait lens of nine and one half inches infinite focus, ought to give a reasonably sharp and correct image if used as a very narrow angle lens, and inasmuch as all the conjugate focii of such a lens, used in enlarging and projection were greater than its infinite focus, the angle would be narrower than normal. It is as if one should use such a lens, in making a portrait, on a large plate, focussing as sharply as possible the central feature, and then cut the plate down afterwards to a small area, including only the sharp portion. I am using, myself, one of the cheaper projection lenses and find its work excellent, and the great advantage it has over some of my other lenses, even at equal speed, is its adjustable barrel and self-contained focussing screw, which is the greatest convenience in the world in this work.

One more point. Don't accuse the makers of your lantern with short-sightedness or parsimony because they have replaced the rising front of your camera with a means to elevate or depress the entire front end of the lantern. As the

relation of light, condensers, negative and projection lens must remain fixed, once adjusted, it is obvious that any raising and lowering of the image by moving the projection lens would totally destroy the relation. Hence, the entire lantern is

tilted to secure this adjustment, and while in theory, this produces a distortion similar to an unperpendicular swing-back in a camera, as a matter of practice, the distortion is so slight as not to be noticeable.



PICKWICK PAPERS

(SECOND PRIZE APRIL COMPETITION)

By Hana Robison

HOW TO GET SUCCESSFUL RESULTS WITH FILMS

BY JOHN BOYD

NEGBATIVES on flexible supports are such an old invention that one dislikes to remind the up-to-date enthusiast that they came into use in 1839, many years before glass was thought of for carrying the sensitive emulsion. Thus the films that are so universally used throughout the world are not a new thing, but the revived thought of Fox Talbot, improved year by year and step by step by the earnest work of those who believed in their future, and who have brought them up to the standards we see to-day.

To make a successful negative on films is not a hard task, if one will apply himself to mastering the little things that are so necessary, but which on account of their apparent unimportance are apt to be slighted in the haste with which all things are managed in this age of rush.

The instructions here given will apply with slight variations to cut films, roll films, stripping films, and paper films, sometimes called negative paper.

There is no need to dwell on the advantages or disadvantages of films; how they are manufactured, or what the plate makers think of them. These are subjects which the photographic press have thrashed out until we might naturally suppose there was nothing more to say. Be that as it may, there are more films used to-day than plates, I mean dozen for dozen, but when it comes to comparing results the films are not yet to the quarter post. The reason is simply inexperience. Inexperience in exposing; inexperience in development, and inexperience in after treatment.

The film maker gets the profits, and the struggling amateur pays the bills.

The former does his best to point the road to success, but the latter takes the near cut across the fields, and gets bewildered amongst the little clumps of bushes that stand between him and his goal.

Cut films are increasing in popularity every month, due to the convenient manner they are put up for use. The film pack, aluminium sheaths, and magazine holders by the score are some of the devices that make them handy to the camerist.

They can be developed singly the same as plates, or manipulated in a tray 3 or 4 at a time, being handled precisely as we would that number of prints in a toning bath.

The developers recommended by the makers I have always found good, and on general grounds I would not have the novice depart from them. Still there are times when a developer in one workers hand will not prove as satisfactory as it does in anothers. Hence a change is necessary. The following one solution formula has been proven of much value for films, having been used for years with unvarying success by myself, and a number of other workers.

Water.....	32 ounces
Metol.....	60 grains
Sulphite Soda.....	3 ounces
Carbonate Soda.....	2½ ounces
Hydroquinone..	180 grains

Dissolve the ingredients in the order named, filter, then cork tightly in 4 ounce bottles with rubber stoppers. For use, take 4 ounces of solution, and add 3 ounces of water. Pour it into a deep tray, say 5x7 inches by 1½ inches deep. Remove the films out of the pack, sheath or holder, dust them lightly by drawing

a soft camel's hair brush across them being very careful that your fingers do not touch the sensitive side any more than necessary, else a veined impression will be the result. Take hold of the film near the end with the thumb and fore finger of the right hand, and draw it with a slow steady motion through the developer, film side downward. Lift it up, let it drain a few seconds, which will break any air bubbles that may have formed, and replace it in the developer face upward. Repeat this at least three times, changing the face of the film upwards and downwards with each movement. While you are doing this keep the developer in motion by rocking the tray. By this time the high lights ought to be seen, but if not, it is of no consequence. From now on the films should be kept in motion in the developer, face down, examining it at intervals to note the progress it is making. More films may be added, according to the exposure they have received, and the expertness of the operator, though I would not advise a greater number than 4 in the tray at one time.

A word here as to the examining of films. They are almost all fully orthochromatic, and in consequence highly sensitive to reds and yellows, both of which colors are universally used in dark room lanterns. My practice is to turn the lamp away from the tray, and allow the image to get fairly well advanced before subjecting it to the direct light which comes filtered through the two glasses forming the front of the lamp. A film will stand a lot of light when the details have assumed definite shape, but in the earlier stages of development it will fog on the slightest provocation, and this accounts for more lifeless negatives through clogged up shadows than unsuitable developers, contamination, or any of the other causes which balk successful picture making.

With roll films, the development is the same, though the manipulation is different. The tank system; the developing machine, and the hundred and one contrivances that seek to make the work mechanical are all fully explained by their respective introducers in the elaborate instructions issued with each, and need not be here repeated, it being our aim to treat of development in the ordinary way, giving to each individual consideration.

As the rolls come from the camera and are unwound, it will be seen by the markings where each is to be cut. If the worker chooses to separate them into individual films he will follow the instructions given for cut films. Since there is however some slight risk in not getting them cut just right, we will consider developing them in the strip. For this an extra tray, basin or jug is necessary in order that the film may be thoroughly soaked before it reaches the developer, as this prevents pin holes or other imperfections that are caused by air bubbles on the film.

We must consider first what length of film we can handle conveniently. A roll of a dozen $3\frac{1}{4} \times 4\frac{1}{4}$ exposures will measure 53 inches in length, and that of half a dozen 5×7 forty four inches over all. As the film has to be passed from end to end without stopping, it will mean that the right hand would have to be 53 inches above the left, while the latter was not higher than the middle of one's body, that being the usual height of the developing table. Experience has shown how difficult a task this is to the tallest, who will find 40 inches an irksome job before he has a strip of negatives that length completely developed. I would therefore say to those of moderate arm length, do not try to manipulate a longer strip than 36 inches if you wish to avoid straining your entire muscular system.

Now for development. Our film is

well soaked by placing it in a tray of water. We grip both ends firmly, preferably with a pair of spring clips. The film is turned face downward, and the right arm is raised until the left is on a level with the tray. Lowering the film well into the solution, we gradually raise the left arm and lower the right until the whole section is passed through the developer. We keep up this see-saw motion until the images can be plainly seen, when if it is found that all have had a uniform exposure, or nearly so, we complete the development without further interference, but if the band shows unequal exposures, we douse the whole into a dish of water into which a few crystals of citric acid have been dissolved. This stops the action of the developer, and enables us to cut up the films into separate exposures, after which we proceed with the development in the manner I have before described.

The films after development by any of these methods are dipped in a tray of fresh water, and then transferred face downwards into an acid fixing bath, to which a hardening solution or powdered alum is added. The use of this class of fixing bath is imperative with films, as they frill very readily, especially in warm weather.

While fixing they ought to receive constant attention by being moved about freely. The under negative should be brought to the top, so that the solution reaches all parts of it freely. Any films which stick together, or hump up above the top of the bath will show uneven fixing even after fixation is complete, so the only remedy is to keep them moving, avoiding at the same time running the sharp corners of the celluloid of one film into that of another.

Be sure fixation is complete by giving ample time in the solution, then transfer the negatives one by one to the washing box. I do not approve of the films be-

ing allowed to float about as the action of the water sends them, as it undoubtedly causes injury to a goodly proportion.

There are several plans that give better results, and are easy of accomplishment—washing the films thoroughly and quickly, besides giving ready means of drying them afterwards.

One is made by building a frame of strips the size of our washing box, with 4 uprights to act as legs. Nail any number of pieces across the top leaving them $1\frac{1}{2}$ inches apart. Take the film negatives and pin them by the corners to the wooden strips, then turn on the water. They will thus get the full benefit of the flow, and be washed thoroughly in an hour. The frame is then taken out, and stood on a table, allowing the films to dry without further handling.

Another simple device is to hook the films with a bent pin over a wire stretched across the washing box in the same manner as the wooden strips. This also gives quick washing and drying, and is equally efficient.

The storage and referencing of film negatives has given rise to many devices, many of which are good though expensive to people of moderate means, and for these I suggest using the envelopes received with the printing out or development papers. Put a dozen or two in each package, and catalog the contents in an alphabetical index book.

In printing from films I have seen much time wasted by amateurs attempting to lay the paper on top of a film in the same manner as if it were a glass plate they were using. An easier way is to lay the clean glass in the frame, take the film negative in your left hand, place the printing paper over it in position with the right, then lay the two down on the plain glass together. This is almost too simple to mention, but how many do it that way?

In printing from films with masks, particularly where you are utilizing nearly the whole negative, and working for a narrow white marginal line, there is more or less difficulty to be encountered to get film, mask and paper exactly as you want them.

Here's a wrinkle that will get over it, and provide a permanent appliance.

Have your mask so that the outside dimensions are at least one inch larger than the opening. Thus if you were printing a 3x4 opening from a $3\frac{1}{4} \times 4\frac{1}{4}$ film, your mask should measure 5x6 inches. Stick this mask on 3 sides to a sheet of clean and clear glass the size of your printing frame, leaving one end open. When you are ready to print, slip the film negative in under this opening, and adjust it to its proper position under the mask. It will stay there flat and controllable as long as you want it, and can be shifted or taken out again at your pleasure—all in less time than it takes to tell it.

A black border for many subjects gives most effective results. With films they are no trouble to make, for all you will need to do is to trim the negative with a cut-

ting board, straight edge and knife to the right size, and print in the ordinary way.

A word or two regarding the permanence of films. It is often asserted that the celluloid support has a deteriorating effect on the emulsion, but reasons to support this contention are seldom mentioned. I want to contradict this, for I frequently print from films exposed and developed 16 years ago, and they are equal in quality to those recently made. From this I gather that the trouble complained of is not the action celluloid has on the emulsion, but rather that the latter was not thoroughly fixed and washed, or else the negatives were not kept in a cool dry place, free from the odors that arise from gas, and certain other chemical combinations. That such a condition is certainly due in most cases to imperfect fixing is proven by the fact that in some of the packages I have found an odd negative whose surface was coated over with a frosting of hypo, or else showed iridescent shapes that forbid getting perfect prints.

These conditions of course are due to imperfect fixing, the remedy for which is obvious.



ON THE PASTURE RIDGE

P. S. Joshi

A PORTABLE DARK ROOM

BY FRED G. WRIGHT

SOME time ago I went up to Petoskey, Mich., but before going built a portable dark room, as I did not know what trouble I might have in finding a suitable place there. It came in very handy in loading my holders and developing plates. The bottom board is 16 x 24 inches, and height of end pieces 16 and 16 inches wide. There is a shelf at left end 4 x 16 inches, for empty holders while developing. The boards at top connecting with each end are 4 x 24 inches. It unhooks at each corner by screw-hooks and eyes (four



pair). The cloth covering is black cambric, put on double all over, and the red window was made by soaking a piece of transparent white paper in color until red, and that put between a sheet of white celluloid and glued at edges between the two thicknesses of cambric, just opposite hood, where you look through. The cloth was plenty large, one piece being about 18 x 64 inches, running the long way of the frame, and then two pieces, about 20 x 20 inches, making front and back. These measurements will have to be doubled when buying cloth, as it was



used double thickness. The sleeves and hood were made from pieces left over. Three yards of cloth will do it all, if one yard wide. There was room inside for a rubber fixing box, holding one dozen 5 x 7 or 20-4 x 5, also tray with water and developing dish. I used this every day up there, and it always gave me the best of satisfaction. The framework was made from a crate, bought at the grocery for five cents. The wood was rather hard and tough, and the bottom board was covered inside with a piece of heavy black oilcloth. The sleeves, hood and corners of the box were sewed together, and the whole thing folds up flat, and will lay in the bottom of a trunk while traveling. It can be used at night, by putting candle outside red window in box.



OVERCOMING SOME DIFFICULTIES

BY EDGAR A. COHEN

WHENEVER makes a hobby of photography, very soon finds if he wants to make a success of it, he must do his own developing and printing. As he gets more proficient, he finds there is some particular paper best adapted to his needs, and tries to make his negatives to suit it.

It is well to have your negatives as even in printing quality as possible, so that it may not be necessary to keep too many grades of paper on hand.

When Special Carbon Velox first came out, I found it gave better gradations of high light, half tone and shadow than other papers, and took to making negatives for it. Since then I have made some 2,500 of them, mostly landscapes, and an analysis of results shows that 85 per cent. fit the paper; 5 per cent. are too flat for it, and 10 per cent. too contrasty. Now I can print them all on Special Carbon Velox if I want to; but that necessitates extra trouble, and a change in developer. Therefore I use Carbon Velox for those that are flat and Special Portrait Argo for the contrasty subjects. It is true I use many other papers; but for utility I do the bulk of my contact printing on those mentioned.

After having made all these negatives for it, I feel inclined to resent the changes made by the makers in the quality of Velox. The carbon is much softer in the shadows, but still retains good high lights. The specials are so much softer, that with a normal developer, the high lights are not strong enough for some negatives that printed well on the earlier paper.

In California we have a cloudless sky during more than half the year; and we either have to pass many good subjects

till clouds appear, or print them in from other negatives. As getting around to all these places when conditions are right is out of the question, the printing in of clouds becomes a necessity.

I began some time ago to find that the printing in of clouds on specials, was with some of my negatives, no longer satisfactory, as the double printing given the sky made it muddy, instead of bright and attractive as was formerly the case.

I find when shadows are not too intense, that I can substitute carbon with good results. I can also use a suitable paper of some other maker. If I have not the other paper handy, and want to print on Special, the sky may be of such a shape that I can dodge it; if not, I can block out, and then print in my clouds; but this is a lot of work, and they may change the grade of the paper again.

In blocking out sky, I paste a piece of black paper on the back of the plate, having first shaped it to just miss the parts not desired to be blocked, and work with marl on the face of the plate, from the edge of the scape over the edge of the paper. This is of especial value if you desire to remove the blocking, besides being a saving in time.

There is still another way, and it is retroactive, applying to what I said about printing all grades of negatives properly on one grade of paper. I presume all your readers already use, or can get a double solution developer. It is customary to use equal parts of No. 1 the developing agent, and of No. 2 the accelerator.

If more softness is required, use more of No. 1 and less of No. 2. On a very contrasty plate, use perhaps 10 parts of No. 1 to 1 part of No. 2. If better high lights and more contrast, is what is wanted, reverse the procedure.



INSIDE THE CLOISTERS, SAN MIGUEL MISSION

By Edgar A. Cohen

If that does not give enough contrast, take a tray of water, and add to it 10 or 15 drops of a 10 per cent. solution of Ammonium Bromide. After printing just enough, immerse paper in the solution for about 45 seconds. Then rinse in clean water and develop. The rinsing will remove surplus of solution, and what is carried into the developing tray is in the emulsion of the paper, and will not appreciably change the condition of the developer. The print will begin to develop streaky; but if properly exposed will equalize. This treatment will often eliminate the necessity of changing a normal developer.

Another simple way to give contrast, and remove fog caused by negative being thin, was recommended some years ago by F. L. Monsen, and I found it worked well. Make the following stock solution:

Ammonium Persulphate.....	50 grains	
"	Bromide.....	10 "
Water.....	.2 ounces	

Add a few drops to your developer. The solution is sensitive to light, so keep it in a dark bottle.

While on the subject of printing, I would advise the use of green wax paper for dodging. It decreases the intensity of light 50 per cent. on the part dodged, and if kept moving does not leave any line of demarcation.

I have tried most ways of local intensification of negatives, and find the most satisfactory for the amount of work involved, is the application of red ink on the face of the negative with a medium sized brush, being careful not to have the brush too full of ink. Inks vary in strength. I have 3 original grades and in each have made a dilution with water to partial strength, so that it gives me 6 grades. The darkest practically eliminates the object to which it is applied, and the weakest softens only slightly. Of the prints herewith of the Cloisters of San Miguel Mission, the first shows



INSIDE THE CLOISTERS, SAN MIGUEL MISSION

By Edgar A. Cohen

where I painted the ceiling with a light grade of red ink, which did not intensify enough; so I painted it again with a darker ink, and the second print is the result.

When needs must, and I have to make an under exposure on a flat subject, I often, after developing, fixing and washing, place the plate in diluted red ink, until even absorption has taken place. Then put it in the drying rack without rinsing. The result is usually a fine printer.

I am not expert enough to repair a torn sky emulsion so that it will not show slightly in the print, and require brush work. The nearest I can come to it, is to carefully scrape away the torn film, and fill up the clear glass with a drop of ground glass substitute. Then hold over a gas jet or lamp, till thoroughly dry; and scrape away the ground glass substitute that has overlapped the film. Then paint it with that grade or red ink

that you think will give same density as rest of the sky. If it is not dense enough, it can be painted again.

Plates are sensitive to atmospheric moisture. Never attempt to scrape them without drying by artificial heat, as otherwise they will be spongy, and the scraper will tear them.

I put every negative on the retouching frame, and try to correct its faults. The large pin holes I fill up with purple water color, or one of the darker red inks; the small ones and scratches with medium inks and dust marks with lighter shades.

Sometimes when I come to print, I find a shadow that is too deep, and if I do not want to lay it aside to paint with ink, I wet the end of my finger with say red water color, and keep tapping it on the back of the plate over the part I want to intensify till it dries evenly. This makes a stipple, which does not show in the print if done carefully.

SOME SUGGESTIONS FOR THOSE ATTEMPTING PORTRAITURE

BY R. H. J. CROSS

WHY are the amateur portraits we usually see such very poor affairs? I do not refer to such details as the gloss on the prints, the neatness of the mounting, or even the retouching but to the problems with which the amateur ought to be able to grapple as well as the professional, to the getting of true likeness, simple and effective lighting, and pictorial arrangement. As far as likeness is concerned the amateur who can pick his sitters from amongst his personal friends is at a very great advantage over the professional, who must take people as they come. In the simplicity and effectiveness of the lighting, again the amateur should score. I expect this opinion will not be accepted offhand by those who remember that the professional photographer has a studio, while the amateur, as a rule, must be content to work in ordinary rooms, but it is my deliberate opinion all the same. The professional's studio serves him to shorten exposures, and to that extent is a help. He can get any lighting he requires very readily, and the studio is again a convenience. But in addition to those arrangements of light and shade which we are accustomed to see upon our friends, which can be obtained both in ordinary rooms and in studios, there are countless arrangements we can only get in a photographic studio, which are therefore liable to be regarded as unnatural. The task before the professional photographer in his studio is to get the natural and usual effect of room lighting with his windows and skylights, only much more powerfully, that exposures may be reduced. Putting exposure on one side, while in the facility of altering lighting his studio

may assist him, the very readiness may be a hindrance. All this brings us back to the question with which I started these notes.

WHY ARE AMATEURS' PORTRAITS SO OFTEN A FAILURE?

The first reason is one which spoils many; it is unsuitability of background. There is no need to buy a background for home portraiture, nor even to make one with distemper or oil colour, though such backgrounds at times are a convenience. But if natural objects are to form the background, they must either be so indistinct as to make no definite suggestion at all or they must be so plain that we see at once what they are, although at the same time they are not insistent, and do not take attention from the sitter. The simplest background of all is an open doorway leading into a dark room. Some lighting arrangements are very effective with such a background, while all trouble of suppressing details is got over. Of course, the print must be so trimmed that none of the door or doorposts is visible. Such a background will only do for heads and busts, or for little more; and its darkness of tone makes its application a limited one. The negatives must on no account be over-developed with such a background, or the sitter will be made much too prominent, even startlingly so. A black velvet focussing cloth makes a good black background if big enough, and if it is kept well in the shade.

BACKGROUNDS OF MEDIUM TONE.

The next kind of background to consider is one which has some medium tone value, and at once we meet with trouble, because it is not always easy to get this without the background being too notice-

able. How often is the wall of a room used as a background? If the paper has no pattern at all, it is particularly suitable, but in most cases it does have a pattern in colour, and so still more prominent to the plate. In such a case we must avoid two things. If we focus sharply on the background the pattern comes out in the photograph, and almost hits one in the face. If we throw it very much out of focus, people ask, "What has she got over her shoulder, a rake or an umbrella?" and the photographer has to point out that it is neither, but a design on the wall, or the cord of a picture, or whatever it is. Much can be done with wall-paper backgrounds by throwing them into shadow by arranging the curtains, getting the sitter as far away as possible, so that his or her lighting can be arranged irrespective of the lighting of the background. A common fault in amateur portraits at home is the inclusion of a whole lot of frames and other ornaments on the walls. The corner of one frame, if the picture is only suggested, and not sharply defined, is often very useful, as providing a patch of light or dark where it may be wanted, and giving the background just the required suggestion of a room wall, but anything more should be avoided altogether. The same applies to ornamental chairs and tables, ferns, pots of flowers, vases, photographs in frames, curtains, antimacassars, and all the other bric-a-brac which is crammed into some portraits, amongst which the sitter looks quite as strange and un-at-home as the proverbial bull in the china shop.

THE IMPORTANCE OF OMITTING THE UNNECESSARY.

There was a little bit of advice given in *Photography* recently by Mr. A. J. Assheton, which might well be laid to heart by the amateur trying to take portraits. He said that it was as important to study what not to take as what to

take, and the photographer ought to keep a sharp look out to exclude from his picture the things which he did not want in it which might be injurious to its general effect. Let the sitter be arranged amidst such things if you like, but study the picture carefully on the focussing screen, and take away everything likely to attract attention from the subject. Keep a sharp look out for bright spots on furniture. Some chairs, table legs, and such-like things have curved patterns turned on them, which have the undesirable property of reflecting into the camera a single bright spot of light whatever the angle made by the illuminant. It may be possible to detect these spots and hide them, but it is very difficult to prevent them from appearing, except by using other furniture and this is just what should be done.

BROWN PAPER AS A BACKGROUND.

Many workers have to take what portraits they do take just inside the window of an ordinary room, and the wallpaper beyond the sitter may be altogether insuppressible by focussing or by shading. When this is the case, a sheet or two of brown paper must be pinned up—the darker the brown the better. In pinning it, if we have to use more than one sheet, it should be so arranged that the outer sheet does not with its edge cast a dark shadow on the underneath one, or we may get a black line that no possible throwing out of focus will obliterate. These dark backgrounds, whatever their nature, must on no account be used for vignettes, as with them it is almost impossible to avoid the dark border to the face which is so objectionable in a vignette.

LIGHT BACKGROUNDS: THE USE OF A SHEET.

The simplest light background is a sheet, which must be so stretched that

its nature is not suggested in the print. If the folds cannot be got rid of, the sheet may be hung from a rod of wood, which is hung like a picture from a nail on the wall, and is kept moving during the exposure. This makes a very effective background indeed, but here again we have to be very careful not to over-develop, or the shadows of the sitter will seem quite too harsh against the delicate tone of the rest. We must not forget that the background ought to print out a little—*how* little is not so important—so that the sitter does not look as if he had been blocked out on the negative as skies are blocked out.

THE SITTER'S CLOTHES: WHITE TO BE AVOIDED.

Too many ambitious photographers take their sitters, especially their lady sitters, in white dresses, or with white lace round their necks. Children, too, are dressed up in white pinafores to be photographed. This is all very well when the difficulties of rendering white properly have been got over, but at first it is simply courting failure. The white comes out an intense glaring white, beside which the flesh tints of the face look muddy and dirty. The darker the garments, at any rate at first, the better, since it makes the photographer's task so much easier.

ABOUT THE SUPPOSED NECESSITY FOR RETOUCHING.

It is supposed to be a very great handicap to the amateur portraitist that he cannot retouch his negatives; at least, as a rule, he is not able to do so. There is always the possibility of sending them out to be retouched, if the process is felt to be necessary at all. But it is often not at all necessary. A rough printing paper dispenses with much of the need for retouching, even if it is not more rough than rough (not extra rough)

bromide paper. A piece of sheet celluloid, either matt or otherwise, placed between the negative and the printing paper, when this is platino matt, will in like manner get rid of all need for retouching, if the negative, to start with, is a good one. If it is under-exposed and then developed up to such a point as to exaggerate all the contrasts throughout, and if the sitter's skin has been focussed microscopically sharp, and a very short exposure given so as to minimise all risk of movement, there is nothing for it but to resort to the retoucher. I do not wish for an instant to advocate fuzziness—fuzzy prints are quite offensive to me—but a little softness is in itself an improvement in a portrait photograph, and it also helps by doing away with the need for retouching. This softness is got by using the lens at its largest aperture, and by taking care that the exposure is long enough for a slight movement on the part of the sitter. Here it will be seen we are making an advantage out of the drawback of no studio, under which so many amateur photographers suffer. The idea that the diffusion or softness can be got by focusing one part of the sitter and letting the rest blur is quite a mistake. By giving some things the maximum of sharpness, everything else looks even more blurry than it is. Besides, we cannot concentrate the sharpness upon just those parts where it is most necessary, but we shall find that other and unnecessary parts are also sharply defined, and therefore more prominent than they should be.

POINTS TO BE REMEMBERED.

Let me recapitulate, in closing, the points to which the amateur portraitist should turn his attention at the very start, if he would avoid the faults which are so plainly to be seen in so much of the work turned out to-day:

Too much prominence in the background, attracting attention from the sitter.

Too little definition in the background, causing enquiry in the mind of the spectator as to what it represents.

Prominent accessories, spotty furniture, and the like.

White clothing on the sitter, making the skin appear too dark.

Too much definition, making retouching a necessity.

Under-exposure and over-development of the negative. I find I have said very little on this point. It is a safe rule, at first at least, to stop developing portrait negatives when they seem little, if anything, more than half done, if the amateur has been accustomed to landscape work.—*Photography*.



ALONG THE DOCK

By Herman S. Hoyt

By Nellie Contant

(FIRST PRIZE, JUNE COMPETITION)

HOMEWARD AT SUNSET



THE MAY AND JUNE MONTHLY COMPETITION

THE May and June competitions were consolidated owing to the lack of entries of merit received before the May competitions closed. As these competitions are solely for educational purposes we will, in every instance, refrain from making awards unless the entries come up to our standards. Don't send in prints merely for the reason that they are pretty, or because they depict some scene of local interest, as the awards are made solely for artistic excellence, (we, naturally, also taking into consideration the possibility of good reproduction.)

The first award was unanimously given to Nellie Coutant for her picture entitled "Homeward at Sunset." This is a truly artistic representation of a common place subject, and only goes to prove that good subjects for pictures may be found anywhere if one will only take the trouble to look for them, and possesses the ability to recognize pictorial possibilities. Note the seemingly careless yet careful placing

of the human figures, all in a different plane, the naturally smaller one to the front, to avoid the effect of reversed perspective, also note the absolutely unconscious pose and the effect of action, and the converging lines of the vegetation, all leading up to the figures, the principal objects of interest, and finally note the complete absence of absolute whites, even at the point of highest light. This picture is well worth the study for every ambitious amateur. Data—Taken in Fall, toward evening, about one-half second exposure, Eastman film, Eastman Velox paper.

The second award was given to a picture totally different in character yet possessing much merit. "Winter" by K. Stoel is a very clever representation of nature in a somber mood. One can almost feel the chill and detect the presence of the coming storm. The composition and placing of the human figure is excellent, but in the opinion of the judges the picture would have been improved by trimming off one-half inch from the left



WINTER

(SECOND PRIZE, JUNE COMPETITION)

By K. Stoel



"MOST FOUR"

By A. A. Toepfert

(HONORABLE MENTION, JUNE COMPETITION)

side. Data—taken with folding Kodak $2\frac{1}{4} \times 3\frac{1}{2}$ film. At noon, in February, printed on Rotograph Grade E paper, Developer, Metol Hydro—Seed Plate.

The first Honorable Mention went to A. A. Toepfert for a charming child study entitled "Most Four." The lighting is a good strong plain effect, and one that the natural softness and delicacy of a youthful face and complexion could well stand, and adds much to the charm and simplicity of the picture. The space has been well filled, the confines of the print framing the face perfectly without leaving an undue amount of empty space so often noticed and so disquieting in many portraits. No data furnished.

The second Honorable Mention was awarded to "On Sunday Morning" by Julia H. Elton. A most excellent representation of an early Winter's morning, the atmospheric effect being particularly

good. In fact the atmospheric effect is all that saves it from being merely a record of a commonplace subject, but as it is, it makes a decidedly interesting picture. Data—Time—8 A. M. Seed 26 plate, Premo— $6\frac{1}{2} \times 8\frac{1}{2}$, Bausch & Lomb lens. Exposure 1-25 sec. Velox print.

The final Honorable Mention went to Grace A. Woodworth for an interesting child study, "With eyes down-dropt and tender." We cannot say much in the way of explanatory criticism, except that it is an excellent piece of work and should afford a good subject for careful study by aspiring portraitists. Data—East light in studio—Instantaneous. Made at 10 A. M., March 20th. Open 8x10 Usner lens. Seed 26x Plate. Pyro developer, Vignetted, extra heavy smooth Sepia Paper, Willis and Clements. Double Mounted.

We urge a careful study of the prize winning prints in each month's competi-



WITH EYES DOWN DROPT AND TENDER

By G. A. Woodworth

(HONORABLE MENTION, JUNE COMPETITION)



ON SUNDAY MORNING

HONORABLE MENTION, JUNE COMPETITION

By Miss Julia H. Elton

tion, and a comparison of the methods of the makers with your own. Don't be afraid to send in your prints if you think they are good. The judges may agree with you and surely the awards are worth working for. Even if you fail to secure an award, you will at least have a greater interest in the competitions, and will thus learn much of advantage and place yourself in position to win the award in later events.

Through the courtesy of Hana Robinson, we are also able to reproduce on page 247 the print "Pickwick Papers" which received second award in our April competition. As stated in the account of the competition that month, it was not possible to reproduce the original print submitted, and the maker has now favored us with a second print better adapted for pur-

poses of reproduction. The judges comment on the print as follows: This picture, a decidedly good portrait study, is also a clever bit of genre work, the pose and expression admirably backing up the title. The artist has displayed excellent judgment in the arrangement in not permitting the two subjects to occupy the same plane. Notice also how admirably the high lights on the book form a connecting line between the two figures, and seem to bind the picture together, affording equal value to both, even though the face of the man is much lower in key. It is attention to these things that produces pictures instead of mere photographs. Data, July, 2 p. m.; very bright diffused light, ordinary window light, Goerz lens, Seed 27 plate, Pyro Developer, enlargement on royal bromide paper.



THE APPLICATION OF COLOUR PHOTOGRAPHY TO CLINICAL MEDICINE

In an excellent article on the application of colour photography to clinical medicine, the *British Medical Journal* says that the reason for the preponderating appearance of the photographic illustration process is obvious. More accurate drawing, a complete rendering of detail, and an almost unbiased and objective representation of anatomical facts can be obtained by the photographic plate, which can be much less disputed than the subjective rendering by drawing and woodcut.

After 1888 we find the photographic process gradually replacing the old line drawing, wherever possible, in medical literature, as well as in the illustrated press generally. The advance made in this direction during the past eighteen years has been enormous, and the advantage to scientific literature, and especially to teaching, can hardly be overestimated. But, great as it has been, it has often been felt that a further step was even more desirable—the objective reproduction of an image in its natural colours.

This desideratum, so eagerly looked for at the end of the last century, has been realised at the beginning of the twentieth by the three-colour process of natural colour photography. Leaving untouched the unsolved mysteries and unfathomed depths of colour perception and colour-theory, unsolved mainly because of the unbridged chasm that separates the physiologist from the physicist with regard to the question of colour perception, we find, in dealing with the practical question of colour photography that we can reproduce any particular colour by a combination of three specially selected colours. The selection of these three special colours is in so far

arbitrary, as any amount of different sets of three colours can be devised, that is, if we call the three colours, A, B, and C, any amount of different A's can be selected, but to each a definite B and C corresponds, and for practical purposes would have to be always the same for the same A.

PRISMATIC COLOURS.

Seldom, if ever, do we have to deal with the prismatic colours in nature, unless indeed, we want to photograph the rainbow itself. We will, therefore, consider only the two methods that have been successfully used for practical purposes, the Ives' method and the Shepherd process. Both methods are similar in the production of their negatives, but vary considerably in the treatment of their positives.

The negatives are taken as follows:—For each picture three separate negatives are taken, identical in form, but each is exposed through a different colour filter, through a red, a green, and a violet-blue glass respectively. These three negatives are best taken by means of a repeating back, and are made side by side on one plate. From this plate with the three negatives, three positives are printed. In the Ives' process the positives are printed on a glass plate of the same size as the negative plate, so that the three positives are side by side on the plate. The picture is produced by means of a specially-constructed lantern, so arranged by partially-coated mirrors that the light penetrates in suitable proportions the three-colour filters, identical in colour with those through which the three negatives have been taken. The three positives are then thrown on to the same spot of a white screen.

The colour filters are so chosen that,

when the light falls through the red, the green, and the blue light without hindrance, white light is produced. If through red and green only, yellow is produced; through red and blue, purple; through green and blue, blue-green; any intermediate shades and tints are produced by the gradation of one or more coloured lights according to the silver deposit on the respective positive. Thus, if the object to be photographed had a white portion, this white portion will act on all three negatives taken through the three-colour filters, and will, on development, produce a thick black deposit, and will produce on each of the three positives a corresponding free space, through which the light of all three colours passes without hindrance, and when superimposed on the same spot of the screen will form a white spot again.

Or, again, if a red object be photographed, it will affect the negative taken through the red screen as if it were white, will, on development, produce a thick black deposit, and will produce a blank space on the positive where the red light passes without hindrance. But the second negative will not be affected, because the green colour filter will not allow the red light to pass, and the same, though in a minor degree, will take place with the third negative taken through the blue filter. Therefore, no deposit will be formed on the second, and only very little on the third negative, and on the corresponding positives a dense deposit will be formed on the second positive, and an almost equally thick deposit on the third positive. The result will be that the picture on the screen will be formed by the full amount of red light passing through the blank space of the first positive, while the green light of the second positive is totally, and the blue light of the third positive is almost totally, excluded, ultimately giving a bright red spot on the

positive. In this way the colours of the original object are reproduced with astonishing reality.

THE IVES' PROCESS.

Beautiful as the pictures produced by the Ives' process are, they have the disadvantage that for their production they require a specially-constructed projecting lantern. They can be seen only on the screen in an obscured room, and cannot be reproduced or printed. This latter drawback is obviated in the Sanger-Shepherd process. If the term may be permitted, the Ives' process gives us a virtual, the Sanger-Shepherd process a real, positive. The negatives are taken practically in the same manner through three similar though not identical colour screens. The positives, however, are produced in a different manner—not by coloured light, but by real colours. For this purpose each of the three positives are printed in the colour complementary to that of the colour screen of the corresponding negative.

The positive of the negative taken through the red colour filter is tinted in the complementary dark blue, or, as it is called, "minus red," the positive of the negative taken through the green screen is printed in the complementary pink ("minus green"), and the positive of the negative taken through the blue-violet screen is printed in the complementary yellow ("minus blue"). The three positives were originally intended for lantern slides. The "minus red" positive is an ordinary lantern slide, tinted a beautiful transparent Prussian blue, the "minus green" and the "minus blue" positives are made as gelatine reliefs on thin celluloid films and stained pink, and yellow respectively. The three stained positives are then carefully registered, and form a lantern slide positive, giving an exact reproduction of the colours of the original object.

THE SHEPHERD AND IVES' POSITIVE.

The Prussian blue forms the principal part of the compound positive; and all the other colours for the positive stains as well as for the colour screens have been selected to suit it because it is a colour stable, transparent, and easily produced. The production of the Shepherd positive is the reverse of the Ives' positive. In the Ives' positive the superposition of red, green, and blue light gives white; in the Shepherd process the superposition of the blue, pink, and yellow stain gives black. Taking, again, the examples given above, a white patch in the original gives a black silver deposit in each of the three negatives, and a corresponding blank patch on each of the three stained positives.

The light of the lantern passes the compound positive at that spot without hindrance, and the result is a white patch on the screen. A red patch of the original produces, exactly like a white patch, a thick black deposit on the first negative taken through the red screen, but does not react at all on the negative taken through the green screen, and only a little on the negative taken through the violet-blue screen. The result is that a corresponding blank patch appears on the "minus red" or cyanide blue positive, a deeply-coloured patch appears on the "minus green" or pink positive, and a slightly-tinted patch on the "minus blue" or yellow positive. The compound positive will, therefore, consist of a pink yellow patch, which appears red, the exact red of the original. In this way every colour of the original will be found to be reproduced.

The technique is complicated and requires a great deal of careful and patient manipulation. The taking of the negatives alone makes a severe claim on the patience of the operator. When we con-

sider that the principal and most important of the three negatives is exposed through a screen of a colour that is usually employed in the red lamp of the dark room for screening off all actinic rays from the ordinary sensitive plate, it is easily understood that the exposure for the particular negative will have to be proportionately long. Then the other two negatives have to be taken, and during all this time the object, in this instance of colour photography, reproduced in the special plate by which Dr. Karl Grossman's paper on lepra ophthalmica is illustrated in the *British Medical Journal*, the patient, must remain absolutely still.

Otherwise the three negatives will not be identical in outline, and the three positives will not register, which means a spoilt picture. The difficulty can be only overcome first by making the plates highly sensitive for coloured light, and secondly, by using lenses admitting of a very wide diaphragm, such as F. 4.5. Thus, it has become possible to produce sharp pictures of living objects with an exposure that is about 500 times longer than an ordinary black-and-white photograph would require under the same circumstances.

The Shepherd process has further this great additional advantage; that besides transparencies such as lantern slides, positives may also be printed on white paper by making blocks direct from the three positions, and printing them, carefully superimposed, in the corresponding three colours, after the manner of chromolithographic printing. The special plate accompanying Dr. Grossmann's paper has been produced in this way. Its realistic rendering of the originals speak for itself, and our authority congratulates Dr. Grossmann on the results obtained.—*The Optician and Photographic Trades Review*.

AS OTHERS SEE US

TRANSLATED BY HENRY F. RAESS

R. Dührkoop of Hamburg, the foremost art photographer of Germany, took occasion to visit this country during the St. Louis exposition. He reported his observations at the annual meeting of the Saxony Photographic League, Sept. 28, '05. This report was printed in many German photographic journals. The following we have taken from *Die Photographische Industrie*, No. 40 Oct. '05. "While the Germans pursue artistic photography in large sizes by the use of pigment (carbon) and gum printing methods, the American prefers smaller sizes and uses principally platinum, which is particularly suitable for this purpose, especially the partial development or glycerine method. This platinum process gives the pictures an extraordinary soft and delicate tone and artistic effect. The American also understands mounting and framing the picture in tasteful manner. The pictures are mostly gray or sepia brown, the mounts and frames corresponding in color. The American art-photographer aims to obtain subdued effects, he gets this by never having pure whites in his photographs, in counter distinction to that wanted by our (German) public. Besides the platinum process, many American studios are using the extraordinary simple oil printing process. A sheet of writing paper, which is used to support the picture, is painted with a chrome solution, which makes it sensitive to light and then dried, printed under a negative, washed and again dried. The resulting faintly visible chrome picture is covered with oil color applied by means of a printer's roller. It is then developed with hot water. The development permitting a wide range of effects. The American studios also use a lens which can be moved during the

exposure, this movement increasing the depth considerably. Photography is used far more in America for technical purposes than in Germany. The photographic picture plays a far larger role in the American daily press than with us. The American papers use daily a large number of reproductions. Many photographers have made a specialty, making collections of photographs of celebrated persons, landscapes, cities, buildings and many other objects. These collections are used by private persons as well as public institutions. All this forms a considerable source of income to many photographers. On the whole, photography is a more lucrative occupation in America. We see this when comparing the furnishings of German and American studios. We find the well known American photographer's studio furnished with much simplicity, but at the same time fashionable, plain chairs, dark portiers, walls covered with a smooth monotone cloth. This is quite the opposite of our (German) reception rooms. Their walls covered with photographs, giving a cold business like impression. The American reception rooms have the stamp of a private room. For the pictures a special exhibition room is used, tastefully arranged. The prices of the better American photographers is also radically different from the German. Photographers of the larger studios like Walker, Strauss, Donald (McDonald) Käsebier, Albert and others in New York; Caro (Garo) in Boston, Goldensky in Philadelphia, demand for one picture \$25 to \$100. The wages are consequently better for the employes, although not what they might be when compared with the large receipts. Eccentricity shows its-

self also with many Americans. Some, as a Donald (McDonald), photographs only men, others again only children, a third photographs his patrons like the paintings of the old masters, another demands as soon as a customer enters, a fee of \$25.00 without regards to the resulting picture. One could give a long list of similar cases. At the same time these photographers are not lacking in patronage, on the contrary they are among the most popular. The furnishing

of show cases with pictures on all street corners and house doors of the city so much liked by the Germans is unknown among the better class of American photographers. If they (the Americans) use a show case, it is in most cases a small affair, plainly but tastefully furnished. In these show cases only one picture is shown, but this acts so much the stronger. Mr. Dührkoop exhibited many excellent pictures by American professional photographers.



THE BRUSH BURNER

Herman S. Hoyt

WILD FLOWERS AND THE CAMERA

BY TICKNER EDWARDS

TO anyone possessed of an enthusiasm less fervid than that of the old martyrs, outdoor photography during the cold and dark months of the year can be scarcely a pleasure unalloyed. But with the advent of March, open-air camera-work becomes again both possible and agreeable; and the green country lanes and old-world village streets will soon re-echo to the tramp of the touring photographer, absent since autumn's red leaves began their frolic with the whistling north wind so many months ago.

When—on some mild sunny March morning—our camera-kit has been overhauled, and strapped to shoulder or bicycle, and we are safely in the train, or pedalling our way between the greening hedgerows, clear of the housetops at last, it is well to consider not only what we are going to do on this particular occasion, but to sketch out our plans, as nearly as may be, for the whole season through.

Years ago there would have been little doubt on this score. Landscape would have been the only desideratum and we should have measured our year's success by the number of dead-sharp exposures on trees with houses, trees with sheep and cattle, trees with ploughing-teams, and wagons and hayricks, and similar furniture of country scenes. And if we had a friend with us, we should account it an adornment of our pictures if we could induce him to take up a prominent situation in the foreground of every one of them.

But in these progressive days, landscape photography has developed into another and a vastly more difficult mat-

ter. The very name of the thing that used to delight us, now brings a hot flush of shame to our cheek. A landscape photograph now-a-days must have all the artistic attributes of a manual drawing, or it is nothing. The laws of art control pictorial work of any and every kind. Composition, massing of lights and shadows, suppression of unnecessary detail, a clear message of some beautiful subtle truth in nature, or of some lurid downright quality—if we have not all these and more in our picture, and if we have not chosen a printing medium of the right tone, texture, and chemical adaptability, our work is of no avail.

Luckily for the average man, who takes up camera-work mainly because he finds absorbing pleasure in it, a taste for outdoor photography does not now land him between two alternatives, alike inevitable;—either to essay battle with the modern giants in photographic landscape art, or to confine his efforts to the home portraiture of more or less reluctant sisters and aunts. There is the whole field of specialization still open to him. The great advancement of knowledge in natural history at the present day is largely due to photography. Camera-studies of the wild life of the countryside fill the magazines, and teach us at a glance more than we could learn from a dozen engravings out of the old text-books. Indeed, the public is only just beginning to realize how very remote from the truth these old stock-illustrations in hand-books on natural history really are; and how much there is to unlearn, as far at least as the pictures are concerned, of the nature-lore of our bookish childhood.

But, in taking up the delineation of

wild life, and particularly of bird-life, by means of the camera, we are met by the same competitive difficulty as with landscape. Hand-camera work, if it is to be a veritable transcript of the natural conditions of furred and feathered existence, requires in the operator extraordinary skill and patience, and wonderful strength of constitution. We read of one photographer perched in the fork of a tree from morning to night, exposed to all chances of wind and weather; and of another up to his middle in a stream, waiting hour by hour for a gleam of practicable sunshine. He may have to lie by in a damp ditch half the day, cramped and weary, before the picture he seeks comes to him. Obviously this is work for the giants again, not to be undertaken by the amateur of moderate skill, whose time and whose store of patience are alike limited.

But there is another branch of nature-photography, where indeed skill and judgment are equally required, yet where we shall not run the same risk of broken bones, or the danger of incurring life-long rheumatism. We are all familiar with the collections of wild-flowers, dried and pressed, and treasured by their maker as records of happy summer days spent in the green woods and meadow-lands of long ago. Perhaps we have been impressed with the utter futility of the whole thing, for almost nothing of the originals has been preserved; form and colour and scent have gone, and in most cases the knowledge of an expert would be needed to distinguish the shriveled flower-mummies, one from the other. But a book of photographs of wild-flowers would have a very different value. Many attempts, it is true, have been made to photograph English field-flowers under their natural conditions and surroundings, but—in the writer's opinion—with only qualified

success. The almost invariable presence of an irritating blur of background and impossible lighting, totally destroys the usefulness of the experiment.

The camera-man, who takes up flower-portraiture as a special study, must steer clear of these defects. With a little ingenuity in focussing and stopping-down, and working only on still days, a fairly satisfactory background is often attainable. But in the majority of cases it is better to carry a light grey-coloured screen, and set this up behind the specimen before operating. Such a screen in a thin bamboo-frame, and made to fold up, is easily portable; and its use is quite practicable with nearly all varieties of flowering plant.

The lighting difficulty is of course a more serious one. In most camera-studies of cut-flowers in vases, the illumination and distribution of shadow has been as carefully arranged as in the case of a human sitter. The effect is admittedly charming, and it does not seem wholly impossible to impart at least some measure of this charm of soft lighting and accurate modelling, to photographs of field-flowers taken out-of-doors. A few screens of stretched cambric, easily made and easily carried, would serve to diffuse direct sunshine; or to reflect light in one direction; or cut it off from another.

Many specimens might take better with a dark background, others with the top-light intercepted altogether; others again with the illumination principally from below. In a dozen different ways, which would readily occur to a deft manipulator, the inherent obstacles to an artistic treatment of each subject might be removed; and a collection of wild-flower pictures be produced which would be really helpful to country-lover and scientist alike.—*Photographic Scraps.*

EDITORIAL NOTES

When some one of your acquaintances has made a really good picture of some well-known spot, don't instantly make a mental resolve to go and attempt to better his picture from the same subject, or worse still, to copy it, sure failure awaits you, also the stigma of being nothing but a copyist, and devoid of originality yourself. Far better, start off in the opposite direction, making up your mind that you will find something much better. There isn't a spot on earth incapable of pictorial treatment provided you have the ability to detect its pictorial possibilities and the skill to record them. People in one section of the country are constantly wishing they lived some where else, the Westerner sighs for the water and foliage of the East. The Easterner exclaims, "Oh if I could only live in the West and picture the grandeur of the mountains and depict the picturesque Indian." The man in the country would like to photograph city street scenes, the city man every chance he gets hies himself to the country for pictures. Sometime just for your own amusement take your camera and make a trip to what in your mind is a spot utterly devoid of picture making material, and when you arrive study the spot, and you will find that there is material for half a dozen good pictures. The trouble with the average amateur is that he expects to utilize at least the space of a city block to make up his picture, and entirely overlooks the fact that often times something in a space a foot square holds everything necessary for a picture, a spray of flowers, or perhaps one lonely little flower, sturdily forcing its way to

the sun between a mass of broken rocks, a folorn looking little yellow dog sunning himself on the curb, just such things as these afford pictorial material. This does not mean that you should always go around with a microscope searching for material, but it does mean that you must increase your powers of observation, concentration and selection. You will not only secure more good original pictures, but also get a great deal more out of life and your friend the camera.



There are thousands of prints submitted each year in various photographic contests that fail to receive awards, though the sender fondly believes they possess every artistic quality and merit to an unusual degree. Here are some of the reasons for their being turned down: Merely a topographical record of absolutely no interest except as a more or less truthful representation of so many feet or acres of ground. Two complete pictures in one, if you must have the two pictures, photograph them separately, the human eye can only attend to one at a time. Landscape with figures introduced, with one or all of the figures staring straight into the camera, and appearing about as life-like as a cigar store Indian. Incongruity in attire, Maud Muller raking hay with a picture hat, and high heeled shoes, or "The Gleaner" who forgets to remove her rings or cover up her twenty-five dollar shirt waist while gleaning. Portraits taken with a lens of too short focus showing Mary in the hammock with feet half as long as her arm,

or hands that would do credit to Jeffries. No attention to tone values, flesh texture, resembling white marble, and all high lights represented by absolutely white paper. Improperly trimmed prints, an eight by ten sheet of paper with all the real picture contained in a space four by five or less. Don't be afraid the judges won't see your picture if it is small, they will be mighty glad to see a picture most anywhere in the average lot of prints submitted. Prints sloppily toned, three or four different tones, or stains from improper fixing. Make a good print, mount and trim it neatly. These are only a few of the reasons for your name not appearing in the list of awards. If you don't really know whether your photographs are good or not, consult some one who really knows and has the backbone to give his honest opinion. This may jolt your self conceit a bit at first, but after you have cooled off and tried it again then your entries will begin to show up in the award notices, and be hung on the line in the Salons.



At the time of the San Francisco disaster the April number of *Camera Craft* was destroyed together with all the belongings of Mr. Fayette J. Clute, the editor and proprietor. With true Western pluck, Mr. Clute has opened an office in Sacramento and expects soon to have his April number out. The man who can unflinchingly face such over-

whelming misfortune and immediately set about getting the wheels in motion again is an honor to his country, and to his associates, and we take off our hats to Mr. Clute in admiration for his good old American grit.



The man in the corner told the following story which reminds us of the way some amateurs interpret photographic instructions. "The boarders were alarmed one night by what sounded like a man running at a tremendous gait in one of the upper rooms. However, as it came from the second floor front room of the the new boarder, nothing was said. The next night the same running noises were heard; still it was thought best to say nothing. But the third night the noise differed. The boarders huddled together in the parlor as the chandeliers shook, as the man above apparently came down at intervals with a thump, thump that fairly shook the house. Two men were delegated to see what was the matter. "What in the world is the matter up here?" asked one of the men as the door was opened by the new boarder, apparently breathless. "Why?" came the answer between gasps of breath, "I'm taking my medicine." "Medicine?" echoed the men. "Yes," said the man, as he dropped into a chair from sheer exhaustion. "It's tougher on me than it is on you. But the doctor said I should take it two nights running, and then skip the third night."



A MODIFICATION IN THE CARBON PROCESS

BY ERNEST MARRIAGE

IT is rash to claim any novelty in the manipulations connected with so old a printing method as the carbon process, but I can confidently say that if the treatment detailed below is not absolutely new, it is very seldom practised. One of the stumbling blocks to the amateur carbon printer is the continuing action of light. The tissue may be correctly printed in the morning, but if it is kept until the evening or following day it will very probably prove over-exposed. Storing in a calcium tube, so that the printed tissue is kept perfectly dry, stops this continuing action. But a few months ago I chanced upon a simpler plan for getting over the difficulty—simpler, because no special care or apparatus is required.

It happened that I had been giving a demonstration of carbon development before a photographic society—of course, in the winter session, when the air is damp and the light poor; that is, however, by the way. At the close of the evening there remained one or two prints squeegeed to single transfer paper still waiting for development. These were not thrown away, but were taken home and kept wet until the following evening, when they were found to develop satisfactorily.

The next step was to try if it was practicable to develop a print after drying it in the squeegeed state. The print was soaked thoroughly in several changes of water to get rid of the bichromate sensitizer, then dried. Before I attempted to develop it, the print was

soaked in water for an hour or so, when the usual treatment resulted in a good photograph, indistinguishable from one squeegeed and developed as soon as possible after being printed.

Finally, a piece of sensitive carbon tissue was printed as usual, washed until free from any bichromate stain, and dried in daylight. It was kept in a drawer, with no precautions against damp or light, for a month (February to March), when it received the usual soaking preliminary to squeegeeing. Its behavior was normal; it coiled up first in the water, then expanded. At this stage it was brought into contact with a piece of smooth single transfer paper, squeegeed down, and put between blotting boards. Before development it was placed in a dish of cold water for a few minutes, a procedure I always adopt. The print stripped readily—behaved, in fact, exactly as a freshly-made print does in the warm bath. Before putting the matter to the test, it seemed possible that after drying, the carbon tissue, with its dormant print, might refuse to adhere to the transfer paper, but this was not the case.

Whilst I should not advocate keeping the print undeveloped in the dry state for any long period, it is often advantageous to be able to defer development without the uncertainty attaching to the storing of a print upon sensitive tissue. This is practicable enough when the printed tissue is desensitized in the manner I have described.—*Amateur Photographer.*

MONTHLY FOREIGN DIGEST

TRANSLATED BY HENRY F. RAESS

Short vs. Long Washing of Collodion Prints

It has often been claimed that the principal cause of the fading of collodion papers was due to too long washing and subsequent mounting in a wet state, with slow drying. These claims are probably correct: They certainly are worthy of careful experimental tests. But these tests must be carried out in such a way as to have the same conditions found in practice. Collodion papers of three different manufactures were selected, and tested simultaneously to determine if a particular make of paper would behave better or worse than another. Two of these papers were matte and the third glossy. A number of prints were made on each paper. They were then put in combined toning and fixing bath, after toning one lot the prints were washed for ten minutes in four changes of water, the other lot was washed for twelve hours in running water. All the prints were dried and placed upon white writing paper in the sun in a room. Little difference was noticed in the durability of either the short or long washed prints, they both gradually faded in the light, the long washed prints faded a little faster. Similar experiments were then made upon prints toned in separate baths, gold and platinum, fixed for ten minutes and washed as the others had been. The results were the same; there was no difference in the keeping qualities of the prints treated in the combined and separate baths. It will be seen that long washing is of no special value, and that short washed prints keep just as well. The tests were repeated, but with some modification. The prints after short and long

washing were placed between new, chemically pure, blotting paper which was slightly dampened. They were then placed in a closed glass case without pressure in a warm place for several days. The results now were quite different. The pictures faded to a remarkable degree in this moist atmosphere, those washed the longest also faded the most. The latter after 48 hours were covered with irregular yellow spots, the matte surface papers more than the glossy. Those toned in the combined bath also faded quicker than those toned with platinum. The tests were repeated with the combined bath, only this time before washing, the prints were placed in a second fixing solution which was neutral. But the results were the same. This again proves that long washing diminishes the keeping qualities. Long and short washed prints were then mounted on slightly moist mounts, using a freshly prepared paste of wheat starch. These mounted prints were then permitted to dry in a room and placed in the sun. The results were as before. The prints all faded in time, those washed longest faded a little quicker. There was no difference between the combined and separate baths. Another set of mounted prints while damp was then placed between blotting paper in a warm place. A rapid fading took place with them all, irrespective of their previous treatment. This fading was accompanied by the so-called "paste spots." These results prove quite conclusively, that the method of toning is of little importance, but that washing and rapid drying determines the durability of the pictures.—*Das Atelier des Photographen*, May, '05.

Light from Electric Sparks for Photography

The extremely short duration of the light from electric sparks has been used at times to photograph objects moving at a high velocity, such as rifle bullets, as the duration of the light in some cases is only 1-24,000 second. Dr. Schwinnig has made some improvements in this line of work. He made a number of successive exposures on a plate or film, with an extremely short interval. The plate or film is in the shape of a disk which can be rapidly rotated in the focal plane. Some interesting studies were made on bones showing just what happens when they are struck by bullets, the rush of gases from the barrel before the projectile had left it and the successive phases in the movement of the mechanism of an automatic pistol.—*Photographische Rundschau*, Vol. 19, No. 2, '05.

To Remove Gelatine Films From Collodion Film Base

The film negatives are placed for ten minutes in a 10 per cent. formaline solution. They are then hung up until surface dry. Then they are placed for ten minutes in a five per cent. sodium carbonate solution, then without washing, place them in a 5 per cent. hydrochloric acid solution. The gelatine film can then be easily drawn off and should be well washed. The film is then placed under water, on a gelatine coated plate.

The film should be brushed with a soft camels hair brush to remove the air bells. The plate is then placed in the rack to dry. The gelatine coated plate is prepared by taking a worthless negative and dissolving out the silver with Farmer's reducer.—*Apollo*, Vol. 11, No. 251, Dec., '05.



A GOOD NATURED CHINK

By Herman S. Hoyt

THE "WALRUS" MORALIZES OVER THE AMATEUR

I CAN understand a man (I say nothing of a woman, because I don't believe anyone ever did or ever will understand a woman), but I repeat I can understand a man in a moment of weakness (and most of man's moments are weak) taking up (or rather being taken up by) photography. The very fact that a man takes *up* photography shows that it is beneath him. Yet he stoops to it. Having taken it up he may, if he be particularly fortunate, escape from the thraldom of the art in a comparatively short time, but it is more probable that he will be held captive for the rest of his unnatural life by the lure of the lurid lamp.

Hundreds of hours that he might have spent roaming about the country with a pipe and a nice girl (divine combination) he passes in solitary confinement in a sepulchral dark room. Money that in common honesty should have been devoted to the liquidation of his debts goes to swell the bountiful bank balance of some bloated aristocrat in the photographic trade. Literature to him comprises solely the photographic papers and a few deceptive sale catalogues. He consumes miles of moulding and acres of glass in framing prints that strike terror and dismay to the stoutest hearts. He breakfasts on formulae, lunches on chemicals, dines on technique, and sups on art.

He is, in short, a poor miserable mule of a man. His outlook on the world has a focal length of something less than a foot, and his view of life is bounded by a rectangle of fifteen inches by twelve. Sunshine is an invention for darkening actinometer paper, clouds are specially constructed as a preventive of bald-headed prints. Rain falls to supply his washing tank, glass was discovered to

provide him with plates and lenses. Castles and cathedrals were erected solely in order to furnish entries for the architectural class in competitions, the human race was established so that genre studies might not fail.

Spurred on by a demon of restless dissatisfaction he tries and abandons every solitary thing, old and new, in the way of processes, material, apparatus, subject, and treatment. He vainly hunts the *ignis fatuus* of fame through the marshy wastes of Essex, and hoplessly attempts to scale the steeps of notoriety amid Alpine snows. (I don't know what all this means, but I defy contradiction, and will brook no interruption.) He deliberately converts himself from a more or less rational human being into the very form and essence of a wild ass.

He acquires the habit of standing with his legs astride like a tripod, and screws his optics down to f-64 to read his morning paper. He stirs his coffee with a glass rod to dissolve the sugar, and filters his beer to remove the sediment. He classifies his cash under the headings of Au, Ag, and Cu, and requests you to pass the sodium chloride when he wants the salt. He descants on the harmonious lines of the kitchen fender, and rhapsodises on the chiaroscuro of the fowlhouse.

His conservatory becomes a studio, his bath room is converted into one variegated chemical stain. The lid of his grand piano serves as a mounting table; he glazes his prints on every mirror in the house; he fills the cheffonier with negative boxes; and piles printing frames on the billiard table.

In a word he is—an amateur photographer.

There is no mistaking him. He sits opposite you in the railway carriage, and

when he catches sight of your camera case on the luggage rack he taps you familiarly on the knee and remarks with an upward, camera-wardsquint, "Photographer?" You own the soft impeachment. "Professional?" You deprecate the idea. "Amachoor?" There is nothing but to admit it. "Then we can shake hands" (which you do or rather he does); "I'm an amachoor myself."

At this stage you begin to suspect that you are in for it. You are. Unless the train is going to stop and give you an opportunity of escaping you are most certainly and emphatically in for it.

"What sort of stuff do you do? All sorts? Hm—mistake. Silly idea. Ought to specialise. Can't be jack-of-all-trades. Flutter in all directions and fly in none. What camera do you use? Good gracious. Silly idea. No use at all. The camera you want is a Knockemall-intoacockedhat. Splendid thing. No, I haven't seen one myself, but I've read the advertisements, and as sure as Bill Adams won the battle of Waterloo, it's the final word in cameras. Real hot stuff. Yes, I know they said the same about the Boss-eye, but good gracious, man, that was last year. Silly idea.

"Got any prints with you? No? Hm—I've got a few myself. Only wasters, you know, but I'll just show them to you."

You have been expecting this, because his hand has been furtively stealing towards his breast pocket for some time; and now he drags forth a tattered P.O.P. envelope stuffed full of cockled dog-eared, dirty, ragged abortions that he miscalls prints. You seriously debate

whether you shall pull the communication cord, stop the train, and chance the fine. But if you are a wise man you will do nothing of the kind. You will take those prints one by one and gently but firmly pour out upon each a full measure of the most vitriolic anathemas that your brain can devise, and your tongue express. Give him and his prints gip. Go for him and them for all you are worth. Slay and spare not. Thus shall you have a real parrotty time, and your revenge shall be sweeter than honey and the honeycomb.

Anon you shall encounter the amateur photographic crank when you are afield. You see him looking with hypercritical eye and an ill-suppressed sneer at a beautiful landscape. He makes a telescope of his hand and peeps through it. He holds his head on one side and strikes idiotic attitudes. He puts on a pair of smoked glasses and looks again. He hauls out a sheet of millboard and examines the prospect through an illcut rectangular opening therein. He mumbles about tone values and mutters of leading lines.

Four hours he peruses volumes of notes and studies exposure tables. Then, all of a sudden, determination and resolution loom large upon him. He impressively produces a camera given away as a soap advertisement, gives a hasty glance at an incorrect view finder, and makes a doubtful exposure with an unknown stop.

This is the amateur photographer. By him is the mere painter-man deposed from his pride of place. By him is established the new art. *Photography.*



HERE AND THERE

BY A. A. BISH

(A paper read at the tenth annual convention of the Photographers Association of Wisconsin)

THE word "Art," "covers a multitude of sins." It may be likened unto a "jack-o-lantern,"—the more you follow it, the more elsewhere it seems, and the faster we travel, the farther we get from success,—at least many of us seem to do so.

There are some reasons for these things—for these half-won—half lost successes, whether we are endeavoring to be artists in chimney sweeping—in circus riding—in charcoal drawing, in painting or in photography.

One thing certain, it is *not* "luck," for that view of the matter has been thoroughly exploded within the last fifty years, as proven by everyday history of the business world, even if such a view of the matter ever *did* hold true, which is not the case.

To me, one of the principal reasons, why we find so many failures and comparatively few successful ones, is that too many start out on the road, lacking any definite plan of procedure armed with little if indeed any preparation, expecting to force their "natural gifts" into abnormal growth, and, too, within a few weeks or months at least.

Discouragement usually follows, for, not having been schooled in adversity, we are unable to cope with such apparitions as are sure to beset our path.

Therefore, the thing that most concerns the future professional photographer, is the character and ability of the class of young men who to-day are being attracted to the business, and the influences surrounding them while they are endeavoring to fit themselves, to become the successors of ourselves.

If the hope of the nation is centered in the children of to-day, so also is the future standard of photography as regards its position in the world of Art, and its rank in the business world as well, to be almost wholly determined by the class of men—young men now—who will soon take the places of the older workers.

The boy, or young man, who to-day is drifting into the work without any very definite ideas of the same, or natural fitness for it, and especially who is lacking in a general education, and who learns the simple manipulations of plates and paper, in a gallery where cut prices—abuse of competitors, along with loose and oft times disreputable business methods prevail, will hardly become a first-class photographer or business man. Sooner or later this apostle of Art is brought face to face with a fuller knowledge of the requirements for actual existence or in other words, the "bread and butter side of life." He can then run in debt, he can cut prices, he can take up fakes, all, all of which will lead to his complete undoing.

You would not think of sending your son to study law or medicine where there are no books on the subjects, or where there was no professional atmosphere in which to thrive and grow. Or where the man of medicine or the lawyer, employed most of his time and talents to the furthering of some schemes of graft, instead of pursuing his profession in a quiet, dignified and legitimate way. Certainly not! Then if you have no moral or professional pride as a photographer, do not be guilty of getting some one else into the business, with like unfortunate attainments.

I call to mind now, a case where a bright young man, fairly well educated, and who by nature was otherwise fitted for the business, entered a gallery as a student where many business shortcomings were painfully apparent. This man practically lost ten years of his business life, for after he left there, where such unfortunate circumstances prevailed, it took him that long to overcome, somewhat, some of the things that he had absorbed while there. It behooves the prospective apprentice to investigate most carefully, before he commits himself to any establishment he wishes to enter.

Likewise, the proprietor should be careful to inform himself of the capabilities of his applicant and also to post him as far as possible on the subjects that will make or unmake him in case he decides to cast his lot with us and become a disciple of Daguerre.

A few days ago I saw a young man operating a buzz saw. He had only lately returned from a small gallery, where he went, expecting to learn the business in a short time. He spent some months there, and then left, having lost his time, as well as what he had paid the fellow to teach him photography. The so-called "teacher" having been in the business less than one year himself. As I stood watching him at his new work. I wondered which was the more likely to carve out for him the mystic word, "success," the buzz saw he now operated or the one he had so lately deserted.

The American people are appreciative. They are grateful for any favors shown them, and are not slow to reward any special display of talent.

The question is, are you ready—fully prepared, to demonstrate to-day to your picture buying public, that your work has the stamp of originality—that it is good, honest work—the very best that you can

do, and that it is worth what you ask for it or more?

Are you so conducting yourself and your business, that you command the esteem of your local business associates and the patrons of your establishment?

The public, the great throbbing, pulsating mass of humanity, that constantly surround us in our public as well as our private life and with which we come in contact at every turn, have many—yes very many more ways of finding our measure than we oft times know about. We are sorted out—we are compared with other men and other firms in like walks of life—we are sifted and finally placed in the pigeon hole—usually the one our talents and our inclinations seem to best fit us for—by a public that is rarely wrong in its final estimate—and just as inexorable—for squirm as we may, we can hardly hope to escape, when once put there.

These conditions apply with equal force to the dealer and manufacturer as well as to the photographer, and if you do observe these things you may confidently expect to enjoy your share of the good things here below, for the world is hungering for people who can do things, and who can do them right, without being watched, and who know some things, and who know they know them.

In the photographic field to-day, who will carry the messages to the thousands of waiting Garcias?

A few years ago, the late Marshall Field, of Chicago, received a letter from an old friend who was in business in a western town—a respected and honorable citizen of the place—but who wished to retire from active life, asking Mr. Field to send him a manager for his business interests. He said he wanted a man who, above all things must be honest, of good education, a gentleman, and one who had a fair knowledge of the business he would be called upon to manage

and one who was not afraid to work. To such a man he could pay a salary of \$2,500 per year.

Mr. Field wrote back to his friend that he himself was looking for just such a man and to one known to fill the above specifications he could pay, not \$2,500, but \$25,000 per year.

We must all help with our presence, our talents and with our money to sustain these conventions, for they are doing more to elevate photographers and the business generally than can be told in words.

Those of us who have been attending these state and sectional conventions for the last twelve or fifteen years, know whereof we speak. There is much yet to do—but let us have the future good of our present labor ever in sight. The “stay at home,” or the man who comes here only once in two or three years, and who consequently is not in accord with associations and the aims and purposes of such, can not be considered an authority on such subjects, although he it is who usually offers most of the criticisms on the conduct of the associations affairs.

Shame on you who are only in the business for what you can get out of it! A selfish world indeed would it be if we all took your view of the matter. If you are the slave of your business, it is your own fault, most likely. If you are down in the mire, you can not hope to mend matters by simply sitting by and bewailing your fate.

Ours is a noble profession, as Prof.

Hartmann said yesterday, and we ought to be proud of any part that we may take in further ennobling it.

We all can help in some ways with our talents—our money—or by our presence here at these helpful meetings.

The day is here now, when the line dividing the progressive, earnest and deserving photographer from the other fellow, is sharply drawn. By your presence here, I take it for granted that you are on the right side of the line, and that you are getting enough out of these meetings to fully warrant your continuing to attend and to assist in every way to still further the good work already done.

Portrait photography, in portraying the forms and faces of loved ones, in recalling and preserving most sacred memories of those who would otherwise be lost, buried in the oblivion of the past and in keeping alive and nourishing affections which the separation of land and seas can not sunder, in the solace it extends in the homes of the rich and the poor alike, it performs a service that entitles it to a grateful people, as one of the most subtle blessings known to mankind. What memories of joy and sadness are recalled when we look again upon the picture of a father, mother or friend who long since has passed away, and when we look again and the vision grows stronger and they seem to stand again by our side, and as we see them again through our tears, we exclaim, Thanks, thanks noble Art.



COMBINATION PRINTING

AT one time—now some thirty or forty years ago—the qualifications required in a photographic printer were considerably greater than they are at the present time. Then a printer was expected to be able to print in fresh and shaded backgrounds, or maybe to change them; or at times to combine two or more pictures into one. As an example of what used to be done may be mentioned that the majority of the late Mr. H. P. Robinson's pictures were printed from several negatives. Also, that the once famous picture, "The Two Ways of Life," by Rejlander, which attracted a great deal of attention at the time it was produced, was printed from something like three dozen different negatives, yet the junc-tures could not be detected so dexterously was the work done. Many modern printers, if called upon to change a background or introduce one or more figures into a group, would not know how to set about the work, as witness the queries that are constantly being considered in the "Answers" column. Only last week we replied to a correspondent, a professional photographer, who did not know how to produce a vignette portrait out of a group of several people.

In combination printing two systems may be followed—either masking, or vignetting the one picture into the other. The latter is, perhaps, the better, but requires greater skill and more experience to get perfect results than does the former; hence this method will here be considered. We shall not attempt to enumerate all the "dodges" that may be resorted to, even in masking but will describe a couple of simple methods that will, with a little ingenuity on the part of the worker,

enable him to do anything in this direction that he is ever likely to be called upon to undertake.

By way of example let us assume that an extra portrait is required to be introduced into a group already taken, or maybe, to replace one of the figures, that may have moved when the picture was taken, by a more perfect one. Let us say the picture is 12 by 10, and contains several figures. If the portrait to be introduced has to be taken specially it should, of course, in size, lighting, and density be made to correspond with those in the group. If it has to be made from another photograph this should be reproduced the proper size, and a half-plate would be suitable for the purpose. The negative having been obtained, a print is made from it on, preferably, thin paper. Next, the figure, or so much of it as may be required to appear in the picture, is cut out neatly with a sharp-pointed penknife, and the two portions exposed to light until the paper is blackened. The figure portion is then adjusted in position on the large negative, and firmly secured with a few touches of india rubber solution. This cement is preferable to others, inasmuch as it does not cause expansion of the paper, and the mark can be easily removed if required, without injury to the larger negative. The other portion—the background mask—is similarly secured on the small negative. This being done the group negative is printed in the ordinary way, and the print will, of course, have a white space left to receive the new figure. The group negative is then removed, the single figure one put in the proper position—the margins being extended by black or yellow paper to protect the already printed portions—and the second printing done, care being taken

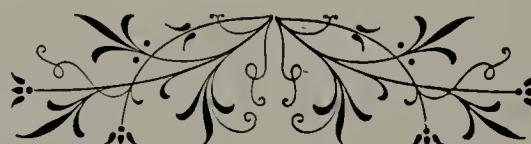
that the depth in the second printing is the same as in the first, otherwise there will be a difference in tone in the finished result. If the work be neatly done the junction of the two printings will not be seen. If it is, it must be touched in with colour, but this should not be required. Here we have assumed that only one figure has to be introduced, but it will be obvious to all that several may be put in in the same way.

There is another very simple method of accomplishing the same end which some may prefer to the one just described. In this the single-figure negative has the background, and such portions as are not required, blocked out with black varnish, or a blackened cut-out mask as in the above method. The figure is then printed on a piece of albumen, or collodio-chloride paper, a little larger than the large negative, and approximately in the position it is to occupy in the group. All the paper beyond the small negative must, obviously, be protected from light during the printing. We then have the figure, alone, on white paper the full size which the finished picture is to be. The printed figure is now neatly painted over with gamboge and allowed to dry. This print is then put into the right position on the group negative, which is then printed as usual; the gamboge protects the already printed image from further action

of light. After the printing is finished the print is washed, toned, and fixed in the ordinary way. In the washing out of the free silver from the paper the gamboge dissolves away and leaves the image clean. The reason why albumen or collodio-chloride paper is advised in this method is that, with some makes of gelatine paper, the gamboge would be liable to leave a yellow tint behind, but with either of the others no such trouble will arise.

In combination printing, whatever method be employed, care should be taken, more especially when several printings have to be done, that the paper is in the same hygroscopic condition in the different printings, for it goes without saying that if it expands or contracts between them accurate registration will not be obtained.

In double or combination printing great neatness and some care is necessary with every print, and if many are required the work becomes a little tedious. Therefore, if, say, several dozens of the same subject are required, it is better to make a combined negative. Such a combination negative is by no means a difficult thing to make, but it requires neatness and some skill in the work, and if only a few prints are required it is scarcely worth the trouble involved.—*British Journal*.



NOTES, NEWS AND EXTRACTS

National Relief Fund for California Photographers. At a meeting in Boston, May 6th, 1906, of the California Photographers Relief Fund Committee, which was inaugurated in New York, April 20th, and the National Relief Association for California Photographers, which was started in Boston, April 27th, it was resolved and decided that the two committees should act jointly under the title of the National Relief Fund for California Photographers, and that no photographer in this country who has the interest of his suffering California Brothers at heart need hesitate to give what he can to either source of appeal, or to both, for the final distribution will be made by the joint committee, to the end that every dollar will go honestly and with strict business care and watchfulness where it is most deserved and needed. As this Union of Committees is of a national character, all other Committees of the country are invited to send their contributions to either treasurer, *Joseph Byron, Treas., 53 West 32d Street, New York, N. Y., or Frank R. Barrows, Treas., 1863 Dorchester Avenue, Boston, Mass.*

New York Committee—B. J. Falk, Theodore C. Marceau, E. B. Core, Pirie MacDonald, J. G. Gessford, A. F. Bradley, F. E. Baker, Curtis Bell, Sec., Jos. Byron, Treas.

Boston Committee—W. H. Partridge, M. B. Parkinson, Jo Di Nunzio, H. D. Haight, C. W. Hearn, Will Armstrong, Sec., Frank R. Barrows, Treas.

A Clean and Rapid Fixing Bath. Every photographer is familiar with the objectionable yellow or brown discolorations shown in negatives fixed in the ordinary plain hypo bath without proper care. The stains may be due to several causes, such as the use of an old discolored developer, insufficient washing after development before fixation, a stained fixing bath, or exposure to white light either during fixation, or before the negative has been sufficiently washed. Color-sensitive (isochromatic) plates contain a dye in the film, and when such stains as those referred to above occur in these plates, the removal of the dye by washing is checked, so that an objectionable tint

often remains in the negative. An acid fixing bath will overcome these troubles. Unfortunately so many harmful and dirty concoctions have been recommended at various times as acid fixing baths that they are naturally looked upon with suspicion, though it should be easy enough to distinguish between the good and the bad. An acid fixing bath, containing alum or chrome alum, is not to be recommended; as a rule it decomposes quickly. No free acid or acid salt other than sulphurous acid, or an acid sulphite, should ever be added to hypo. The acid fixing bath here given is, in my opinion, the simplest, and, at the same time, the safest of all. It can be used with great advantage for every purpose, and can be made at a moment's notice.

Hypo	1 lb	400 g.
Potassium metabisulphite	1 to 2 ozs.	25 to 50 g.
Water.....	40 ozs.	1,000 c. c.

This can either be made up complete, or in smaller quantities as required, by dissolving half an ounce to one ounce of powdered crystals of potassium metabisulphite in 24 ounces of ordinary plain hypo solution. This fixing bath has the following merits: It keeps indefinitely in well-corked or stoppered bottles. It remains clear and colorless in use. Developed plates fix much more quickly in it than in the usual bath. It prevents staining of the negatives, even though a white light should fall on the plate during fixation. It enables one to wash out the dye from isochromatic plates more speedily and completely, and without the precautions necessary with the usual bath. If a plate is left in this bath by mistake for some hours, its density is not reduced as it would be in the usual bath.—*STUDIOSUS in Photographic Scraps.*

Secretaries of Camera Clubs are requested to enter into correspondence with Mr. Bernard C. Roloff, secretary Milwaukee Camera Club, 810 Pabst Building, Milwaukee. Corresponding secretary, with a view towards securing an exchange of courtesies for the members. This is especially desirable in view of the well-known reputation of Milwaukee as a Convention City, a reputation which the "Greater Milwaukee" Association is endeavoring to augment during the present year.

Niagara Falls Convention Photographers Association of America.

A report having been circulated to the effect that Niagara Falls could not care for our National Association, I take this method to refute same.

When the Executive Board was called for its annual meeting, there was some question as to where it would be held, owing to a recent fire which destroyed two of Niagara's hotels. Your Board found upon fullest investigation, that the loss of these two houses, could make no material change in our plans, as the remaining hotels and private rooms were abundantly able to care for a convention

DOUBLE THE MAGNITUDE OF THE PHOTOGRAPHERS ASSOCIATION OF AMERICA.

We have secured such rates, that there can be no question of fairness or the old cry of Niagara Graft raised, WHICH YOUR BOARD SIFTED, AND FOUND NO JUST CAUSE FOR COMPLAINT ON THAT SCORE.

The Official Headquarters, Cataract-International Hotel, have made us a most liberal rate, Three to Five Dollars per day, American plan, the latter rate includes private bath, and about one hundred rooms at Three Dollars, American plan, is certainly so reasonable that you cannot afford to stay at home or away from headquarters.

Other first-class hotels have made the following rates:

Clifton (American Side)	.\$2 50	American plan
Tower Hotel.....	2 50	" "
Empire Hotel.....	2 00	" "
Temperance House.....	1 50	" "
Temperance Annex.....	2 00	" "

Also a large number of rooms in private homes from 50 cents up.

The magnificent scenery and the social life to be enjoyed in our being called together for a full week, the untold value to our financial success in attending a convention planned as educational in a business sense, as well as a fine Art display, indicates that it will do you great good, and be of lasting benefit in the future conduct of the business end of your profession.

FRANK W. MEDLAR,
Secretary

and is equally suitable for prints that are to be mounted, for those that are to be stored in a portfolio, and for those that are to be used as book illustrations. The manner of making them (says the *Bazaar*) is simple enough. Sprays of trailing plants, fern fronds, plumed grass, and simple flowers—most, if not all, of which may be obtained in the winter months—are tastefully arranged on a sheet of white, or, better still, grey paper. It is better not to make a complete square or oblong of them, but to make the largest mass at the lower corner, with the longest sprays running up one side and curving over a little at the top. The arrangement at the bottom should be fairly full, and a tuft may rise upward for a short space at the other side. Formality and equal balance should be avoided. The group is then photographed, and a mask of opaque paper, gummed at the center, placed in the middle. When attached only by the centre it may be removed without damage to the negative, and other masks of different sizes substituted. The negative bearing the portrait, landscape, or what not, must be masked round the edges, and the print made. The print is then placed behind the border negative, with the opaque centre mask in its place, when the second printing takes place. If the border negative is made on a sheet of thin celluloid, with the centre cleared away, and the edges of the picture negative are also cleaned, it may be possible to print the two together, but double printing is generally necessary. Moulded picture frames, designs from books, and carved panels from furniture, may all be pressed into the service with the happiest of results.

Brooklyn Camera Club,

One of the most enthusiastic and best enjoyed meetings of the Brooklyn Camera Club was held on Tuesday evening, April 24th, at the photographic studio of Mr. Samuel Lifshey, 88 Manhattan Avenue.

Upon the pretext of the necessity of immediately considering important business, a committee of the members had prevailed upon President Wm. T. Knox to call a special meeting, the real object, however, being to honor the President and Mr. Wm. H. Zerbe, the Vice-President, through the presentation of a sterling silver loving cup to each.

The upper studio meanwhile, had been transformed into a Japanse Garden in the center of which the banquet table had been tastefully arranged. Here, beneath the soft light of innumerable shaded electric bulbs, amid branches

Border Negatives for Photographs. A suitable border round a photograph gives a finish to it, which in many cases will be quite as tasteful as a frame, is cheaper to provide,

of apple blossoms, the members made merry until long after midnight.

In a neat speech, Mr. Lifshey on behalf of the club, presented to Mr. Knox, a massive loving cup in sterling silver, following this later with a similar courtesy to Mr. Zerbe. Both recipients responded in a happy vein, although the thoroughness of the surprise considerably ruffled the usually calm serenity of these suave and many times honored officials.

Preparations are now well under way for spring pictures and the coming season promises to be one full of enjoyable activity along photographic lines.

EDWIN O. TORBOHM,
Secretary, pro tem.

The Strength of Developers. Some years ago Von Hübl was at much trouble to work out the strength both of developing agents and of alkali which gave the best results, and, as far as we know, his figures have never been published in British weights and measures. The relative strengths of the different alkalies employed may be taken as indicated by the following factors, the use of which will be subsequently pointed out: Caustic soda 1, caustic potash $\frac{1}{2}$, potassium carbonate 10, sodium carbonate anhydrous 8, sodium carbonate crystals 16. The first column of figures below give the best strength of each substance in the solution applied to the plate, in grains per fluid ounce. The use of the figures in the second column is as follows: For each grain of the developing agent (pyro, metol, amidol, etc.) we must use a proportion of alkali expressed by the figure in the second column multiplied by the factor given above. The example below will make this clearer.

Pyrogallol.....	1 $\frac{1}{2}$ to 395
Pyrocatechin.....	372
Hydroquinone	2 $\frac{1}{2}$ to 572
Glycin.....	543
Adurol.....	542
Pari amidophenol.....	2 to 3 $\frac{1}{2}$28
Metol.....	323
Eikonogen	3 $\frac{3}{4}$ to 7 $\frac{1}{4}$15
Diogen.....	612
Amidol.....	2 to 4	—

Caustic alkalies should not be used either with pyro or with metol. Amidol requires no alkali. Example: Let us suppose we wish to use adurol and potassium carbonate. The first column tells us that with adurol a strength of 5 grains to the ounce is best. Taking the figure in the second column, .42, and multiplying it by 10 (the factor for potassium carbonate, given above), we get $42 \times 10 = 4.2$, from which we learn that for each grain of adurol we ought to take 4.2 grains of potassium carbonate. As

we have five grains of adurol per ounce, we ought to have 21 grains (4.2×5) of potassium carbonate per ounce.

Editor Photographic Times, New York.

Referring to the second "Editorial Note" in your April issue, permit us, in justice to several officers and members of the Salon Club, to make a correction. The Quarterly projected last year as the exponent of The Salon Club of America and Annual Salon, *has materialized*, under another name, and in somewhat modified form, as "Art in Photography." The Photo Era Publishing Co. acquired the pictorial and literary material in preparation for "Salon Work," with its subscription list, the benefit of a costly campaign of advertising, and the cordial good will of The Salon Pub. Co.; and "Art in Photography" will in the main follow the lines laid out by the original projectors. The Salon Pub. Co., was embarrassed first by the printers' strike last summer, and then by the serious illness in succession of its editor-in-chief and its business manager; and rather than subject its subscribers to further delay in publication, accepted last December, the proposition for a transfer arranged with The Photo Era Pub. Co., by Mr. Curtis Bell.

Yours respectfully,

(The late) SALON PUB. CO.

Cazenovia, N. Y., May 4, 1906.

Improvement of Lantern Slides. The use of the mask for correcting trifling errors was alluded to last week, and it will very soon be found that a very slight alteration in the position of the lantern slide mask makes or mars the general effect. If this is true of the work of the beginner in slide-making, it becomes still more apparent (writes "Camera," in the *Glasgow Evening Times*) as progress is made. In this respect the beginner is apt to be misled if he purchases a box of assorted lantern masks, and has to find out before very long that there are certain shapes in the assortment that he hardly ever uses, while the popular shapes are soon exhausted. The popular oblong shape he will find he can have a box of, and if he also includes a box of plain uncut squares, which can be cut to any size, he will be able to make the most of all his slides. In getting masks the beginner should see that there are no rugged edges or badly cut corners on those he uses, as the lantern shows up all these defects, and at the same time magnifies them. If the masks which are ready cut are found perfect in this respect, it will be a guide as to what is required

when a special shape of mask is cut from a plain square by the amateur himself. A mask which is seldom required, and yet most effective occasionally, is the dome-shape—that is, one cut with square corners at the foot and rounded at the top. Circles and ovals will also be used very sparingly, and are useful for portrait subjects. A cushion shape—that is, oblong, with rounded corners—was until recent times the most popular of all shapes for slides, but with the advent of pictorial photography they are gradually becoming the monopoly of the professional slide-maker. There is no worker with any pretensions to pictorial work that would use a cushion shape if any other would do as well. This is as it should be, as no pictorial worker would on any but the very rarest occasion cut off or round the corners of a picture for exhibition, and if it is unsuitable in prints that are to be exhibited, it is just as undesirable and lacking in pictorial quality when a slide is being made. Another use of the mask is to cut off an undesirable foreground or any portion of the picture which it is found will spoil the effect. A long strip can also be specially cut so as to give a panoramic picture. In this way the mask is used not only to correct slight errors, but also to help the general pictorial result that is aimed at.

The Camera Club of Hartford had an unusual exhibition at its club rooms from April 6th to 9th, the exhibit being restricted to the work of leading women photographers. In response to invitations sent out to some of the foremost workers in the United States both amateur and professional, thirty-two women were represented. Some two hundred prints, consisting of portraits, landscapes and genre were included. Among these exhibitors were the Misses Allen, Mrs. Louise Birt Baynes, Jessie Tarbox Beals, Katharine Bingham, Miss M. L. Bodine and Miss Nina F. Lewis, Mrs. Anne W. Brigman, Miss Fedora E. D. Brown, Mrs. Flora M. Colman, Mrs. Helen W. Cooke, Miss Nellie Coutant, Miss Eleanor W. Davis, Jane Dudley, Sarah J. Eddy, Mrs. Helen P. Gatch, Adelaide Hanscom, Mrs. Charles S. Hayden, Miss Elizabeth Holden, Clarissa Hovey, Miss Frances Benjamin Johnston, the Misses W. and G. Parrish, Mrs. W. W. Pearce, Virginia M. Prall, Olive M. Potts, Miss Reineck, Miss Hannah E. Scott, Miss Edith H. Tracy, Mrs. Anna Robison, Mrs. Myra A. Wiggin, Mrs. Eleanor W. Willard, Mary G. Huntsman, Miss Alice Boughton, and Mary Carnell.

This we believe was the first time an exhibition of this character was given, and it reflects great credit on its originators.

The club is in a flourishing condition. New quarters have been selected with many com-

forts that appeal to workers in the craft. Electric light apparatus with attachment for making lantern slides have recently been added. Great activity prevails amid the members generally.

At the annual election of the Photographic Section, Academy of Science and Art of Pittsburg, May 8th, the following officers were chosen:

President—O. C. Reiter.

Vice-President—R. D. Bruce.

Secretary—J. M. Connor.

Treasurer and Director of Lantern Slides—W. McK. Ewart.

Judges—Samuel A. Martin, Rev. D. R. Breed, H. F. Walbridge.

Programme Committee—Dr. Roger Williams, Wm. McG. White, C. W. Davis.

At the tenth Annual Convention of the Photographers Association of Wisconsin, held in Milwaukee, on April 24th, 1906, the following named officers were elected:

For President—B. J. Brown, of Milwaukee.

For Vice-President—W. A. Pryor of La Crosse.

For Second Vice-President—W. J. Hillman, of Richland Center.

For Secretary, J. M. Bandtel, of Milwaukee.

For Treasurer, A. A. Bish, of Chippewa Falls.

We also take pleasure in calling the attention of our readers to the interesting paper of Mr. A. A. Bish of Chippewa Falls, entitled "Here and There," read at this Convention, which should serve as a fresh incentive for all earnest workers along professional lines.

The Second American Photographic Salon, held in Chicago, in March, was such a success financially, that it afforded the Chicago Camera Club the means to enlarge its quarters and add new equipment. The club rooms, closed for some weeks, while these improvements were in progress, were opened on the evening of May 24th, with a large attendance.

On that occasion there was a special print exhibit by two of the foremost pictorial workers of the country, Mrs. Sara Holm and Mr. Louis Albert Lamb of Chicago. A box of lantern slides from the California Camera Club of San Francisco was also shown. A collection was taken up for the benefit of the latter club which fared disastrously in the recent calamity.

The Chicago Camera Club is in a flourishing condition, having a membership of nearly one hundred members and ranks among the leading photographic clubs of the country.

TRADE NOTES

The Bausch & Lomb Optical Company of Rochester, N. Y., are sending out a small catalogue of their lenses which is worthy of a place in every photographers reference library, as it contains much information of practical value relative to lens construction. The book also contains some excellent examples of fine lens work by prominent workers. A copy will be sent on request.

The New York Camera Exchange of 114 Fulton Street, New York City, are out for business if their new bargain list is any criterion, these are bargains, and bargains in every thing from a pound of hypo to a high grade anastigmat. We can cheerfully recommend this firm as being fully reliable in every way. Send for their bargain list, No. 14.

When you say anything about Goerz Lenses, the wide awake photographer at once begins to sit up and take notice. Anyhow the Goerz people have just issued a new catalogue to keep you interested till the new one with the gorgeous Steichen prize cover is ready. The book contains an article on the selection of lenses that is worth the price of several stamps to read. The new Goerz lens this year is the Goerz Convertible Anastigmat Pantar. This Lens, which has just been placed upon the market, differs entirely from the construction of the other series of Goerz Lenses yet issued. The Single Pantar combination is composed of four different lenses, and forms an exquisite long-focus landscape-lens which works with crisp definition at full aperture f: 12. 5. It is perfectly rectilinear and is completely corrected for spherical, chromatic, astigmatic, and comatic aberrations. It is, in short, a magnificent lens, perfect in itself and of general application.

The Goerz Convertible Anastigmat Pantar possesses the same great covering power which has made the Series III Dagor so famous all over the world, and can, like the latter, be used as a wide-angle lens. The Convertible

Anastigmat Pantar, No. 8, for instance, of 6 inches focal length, which is generally used as a 4x5 lens, will cover a 6½x8½ plate, even with a considerable rise of front.

The Obrig Camera Co., owing to increased business, have moved from their Broadway address where they have been for so many years, to larger quarters at 147 Fulton Street, New York City. Messrs. A. C. & W. E. Wilmerding will be glad to welcome their many friends at the new home.

One always expects something pretty fine from the Century Camera Company of Rochester, N. Y., and they have outdone themselves in their 1906 catalogue, from the exceedingly beautiful and artistic cover, to the last page, every part of the catalogue is of interest. To attempt to describe all the good things in it would be to reprint the catalogue, so we would suggest your getting a copy. The Century Camera Company will send it on request, and you won't throw it in the waste basket when you get it, either.

Many Amateurs are interested in stereoscopic photography to the extent of thinking that they would like to take it up sometime, but are deterred from investing in a stereoscopic camera owing to the expense of such an instrument.

To all such we would suggest an inspection of the No. 2 Stereo Brownie, selling at the remarkably low price of twelve dollars.

Many persons have the idea that the Brownie cameras listing at such a low price are more in the nature of toys, but such is not the case, as every one of the series is a good, practical instrument. The No. 2 Stereo Brownie is well worth considering by any amateur wishing to take up this fascinating branch of photography.

These instruments are fitted with an excellent quality of matched single achromatic lenses, the shutter being of the automatic type, fitted with four stop openings, and operated by either finger or pneumatic release.

By means of the Self Transposing Stereo Printing Frame, a very simple device, the necessity of cutting apart either negatives or prints has been obviated, so that with the Stereo Brownie the making of stereoscopic prints is as simple as the making of an ordinary single print.

The Voigtlaender Optical Company of West 23rd Street, New York City, have a pretty good thing in their Dynar lens, and are making a specially attractive proposition to hand camera users. The Voigtlaender lenses have for many years enjoyed a most excellent reputation, and the hand camera man should write them for their proposition.

Taylor, Taylor & Hobson have issued an instructive poster showing the construction of most of the modern anastigmat lenses including their own lens, the Cooke. Whatever there may be in their claims for superiority, the fact remains that the Cooke lens is one of the best lenses on the market, and no intending purchaser of a high grade lens can afford to pass the Cooke in his search for a first-class objective.

We beg to announce through the medium of your valuable columns that the firm of Telgmann & Torka, of San Francisco, our General Agents for the Pacific Coast have resumed business at 1107 Turk Street, same City. They will carry in stock as heretofore, a complete line of our goods.

Their new construction and repair department will be fully up-to-date and provided with greatly increased facilities. Their factory is being built on a very much larger scale, and is being fitted at a considerable expense with improved machinery of the very latest and most approved design.

We will gladly extend, through Messrs. Telgmann & Torka, all possible facilities to photographers who have lost their belongings in the recent catastrophe and help them to re-open business either through the loan of lenses and apparatus, or by extension of credit whenever necessary, or any other means at our disposal.

Thanking you for the insertion of the present lines, we remain,

Yours very truly,
C. P. GOERZ OPTICAL WORKS.

Every amateur awaits the issuance of the Eastman Kodak catalogue to learn what's what in photography. The 1906 edition just issued is a beauty, the cover design being exceptionally fine and truly a work of art. The inside of the catalogue is equally good, and illustrates a number of new and good things from the Kodak city, among which may be mentioned: The 4 A Folding Kodak similar in design and construction to the popular 3 A F. P. Kodak, the 4 A making pictures $4\frac{1}{2} \times 6\frac{1}{2}$ inches, and fitted with a lens of $8\frac{1}{2}$ inch focus.

The rapidity with which this new camera can be placed in focus for any distance will render it of great value in catching street scenes and work of like nature. To focus, a catch in the Focusing Scale is set in the notch corresponding to the distance away of the object to be photographed; pressure on a concealed button then springs out the front and the instrument is in focus. The size and shape of the picture, $3\frac{1}{4} \times 5\frac{1}{2}$, is something new in a box-form camera.

The Kodak Tank Developer makes the daylight development of film a very simple process and the resulting negatives are of a higher average than those obtained in the old darkroom way.

In general principle, the Kodak Tank Developer is the same as the Kodak Developing Machine, but is an improvement upon that process in convenience and results.

As with the Developing Machine, the film after exposure is protected from light by being first wound up with a light-proof apron. But with the Developing Machine the operator has to continue turning a crank, thus revolving the film through the developer; while with the Kodak Tank Developer the film is removed from the winding box and, being placed in a cup of developer, requires no turning or motion at all during development, beyond tipping the cup end for end two or three times to insure the developer acting evenly; and last, but not least, is an entirely new product, by which prints can be mounted even on thin mounts without curl, no apparatus being required—just the tissue and a flatiron. Put up in different sizes in packages with full directions for use.

Ask your dealer or send to Eastman Kodak Company direct for a copy.

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EXCHANGE.—4x5 triple extension "Korona" 1901 pattern, for extension pocket plate camera or 5 in. anastigmat. Charles V. Weiler, Flemington, N. J.

FOR RENT—A new and modern photograph gallery in a new building in New Kensington, Pa., a hustling, growing city in center of 10,000 population. Practically no competition. An elegant opportunity to build up a thriving business. For particulars address H. J. Logan, New Kensington, Pa.

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FOR SALE—Best equipped and located Studio of Denver, most elegantly furnished in City. Best reason for selling. Address J. care of Photo Times, 39 Union Square, New York City.

PHOTOGRAPHIC MAGAZINE FOR SALE.—Photo Era, Vol. I to XVI inclusive; Camera Notes Vol. II to V; Wilson's Photo Magazine 1890 to 1903; Photo Times Bulletin 1886 to 1904; Anthony's Bulletin 1891 to 1901; International Annual Vol. I to XIV; etc. Complete volumes; perfect condition; cheap. George R. Seiffert, Lock Box 41, Phila., Pa.

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WANTED—Position by young man. Good all round workman. Address W. F. Jackson, Box 302, Effingham, Ill.

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WANTED—Position as manager photographic supply business. Experienced in all branches of business; six years with one firm; prefer the West. C. A. L., care Photographic Times.

Wanted.

WANTED—Carbon printer, send samples, references, state salary. F. Gutekunst, 712 Arch street, Philadelphia, Pa.

WANTED.—To buy or rent photograph gallery, furnished or unfurnished, in large city, or would buy half interest. New York, Brooklyn, Cincinnati or Chicago preferred. Address, stating price and full particulars of what you have Box 496, Pittsburg, Pa.

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

PREVENTING DECEPTION.

A recent number of the *Camera* contains a most instructive article on Development with particular reference to the development of over exposures. The substance being as follows :

As a basis for demonstration four plates were exposed upon the same subject, eight times the correct exposure being given.

Plate No. 1 was developed in the ordinary way, that is, when it *appeared* sufficiently dense development was stopped and the plate fixed—the result being a weak, thin negative.

Plate No. 2 was developed with bromide added to the developer as soon as over exposure was evidenced. The duration of development being determined by visual examination as for Plate No. 1.

Result. The negative precisely like No. 1.

The addition of Bromide having absolutely no effect except to make development slower.

Plate No. 3 was developed with Bromide added before development. This negative proved to have a fair degree of contrast and demonstrating that Bromide is an advantage if *added to the developer before development has commenced.*

Plate No. 4 was developed according to the factorial or time development method. At the expiration of the required time the plate was removed and fixed, the negative affording good contrast and brilliancy, and in every way *as good as if the plate had received only normal exposure.*

The writer very pertinently remarks that Plate No. 3 must be ruled out, as we can seldom, if ever, add Bromide before development owing to our not knowing whether the plate had been over exposed or not.

As to density, negatives Nos. 1 and 2 print in five seconds. Negative No.

3 in ten seconds, negative No. 4 in thirty seconds, proving conclusively that the time of exposure only affects density and not contrast.

In concluding, the writer states that "Time development is *correct* to give proper representation of the lights and shadows whatever the exposure."

"Time development simply prevents appearances from deceiving us, and enables us to afford the film the proper amount of development, no matter how dense or thin the negative may look in the dark-room."

Time or factorial development is the fundamental principle of the Kodak Tank Developer.

Error either way from the correct or normal exposure is taken care of by the extreme latitude of Kodak Film and the proper time for development and exact formula for developer have been figured out by the manufacturers, absolutely ensuring the user the highest possible percentage of good results, to say nothing of the immense advantage of performing the entire operation of picture making in good wholesome daylight.

WHAT'S THE USE.

Some of us started Kodaking a good many years ago using the old style Kodak making the little round picture, perhaps at first "they did the rest", but after a while we tried it—not with great success, as albumen paper was quite a proposition for an amateur.

Then came Solio and daylight loading. We thought the Millennium had arrived—making pictures was too easy. Then just as we became accustomed to such luxuries along came Velox—another tradition shattered, now we could make pictures by any light, and so rapidly that we overtime every print, not being able to realize at first that prints could now be made in as many seconds by

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

gaslight as it took minutes of daylight the old way.

So it went from bad to worse; every time you picked up a magazine Eastman had something new; if you couldn't make prints in the daytime, make them at night; if you didn't like black and white prints Eastman had a paper that would yield browns, olive greens, sepias, etc.; if you grew lazy or thought you couldn't carry the camera and your gun also, out came the Folding Pocket Kodak—you hadn't an excuse, simply had to go on Kodaking.

Now you don't even need a dark room for developing—don't even need to turn a handle—just pop the films in a tank, sit down and be comfortable.

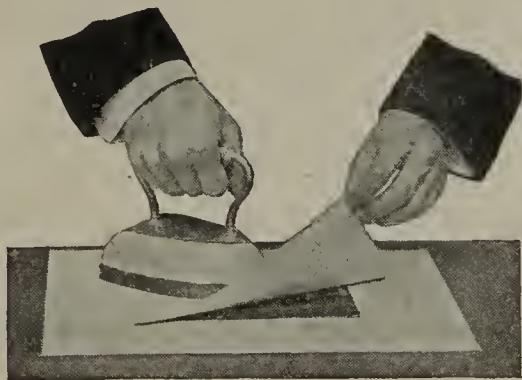
What's the use—every time you would invent an excuse for retirement out comes something new and good from the Kodak City—you just simply have to keep at it—and deep down in your heart you wouldn't quit Kodaking if someone paid you for it.

SEPIA TONES.

Velox paper long ago established itself firmly in the good graces of the photographer, the variety of surfaces and grades affording him a medium of expression unequalled by any other paper, to say nothing of its convenience and time saving qualities. For some subjects the regular black and white tones did not suffice and the amateur resorted to more or less non-permanent and troublesome methods to produce prints warm in tone.

The use of Velox Re-Developer affords the ideal method of producing Sepia toned prints, absolutely permanent, uniform in tone and without unsatisfactory delay as by this method a Velox print can be turned Sepia in two minutes and at the nominal cost of fifty cents for three hundred four by five prints.

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A New KODAK for $4\frac{1}{4} \times 6\frac{1}{2}$ Pictures.

The No. 4A Folding Kodak follows the lines of the immensely popular 3A Folding Pocket Kodak and is intended to meet the demand of photographers who fully appreciate the supremacy of the Kodak for serious work. The pictorialist has often experienced difficulty in making his picture come properly within the arbitrary confines of some of the regular sizes of films and plates, finding it necessary to photograph the image on a scale smaller than desired and then trimming down the print in order to perfect his composition.

In the 4A Folding Kodak the size of the picture has been increased to $4\frac{1}{4} \times 6\frac{1}{2}$ inches, an ideal size from the

pictorial stand-point, and one that enables the picture maker to record the image on the largest possible scale without detriment to the composition. The optical equipment is one of the strongest features of the 4A, the lenses and shutter being such as are ordinarily furnished with the highest grade 5×7 camera, ensuring speed, covering power and correct perspective.

The lens of the regular equipment is a double combination Rapid Rectilinear, $8\frac{1}{2}$ inch focus, fitted to the No. 2 Bausch and Lomb Automatic Shutter. The rising and sliding front, automatic focusing lock and the extension focusing scale, are immensely practical and convenient and do much to increase the simplicity in manipulation and accuracy of results.

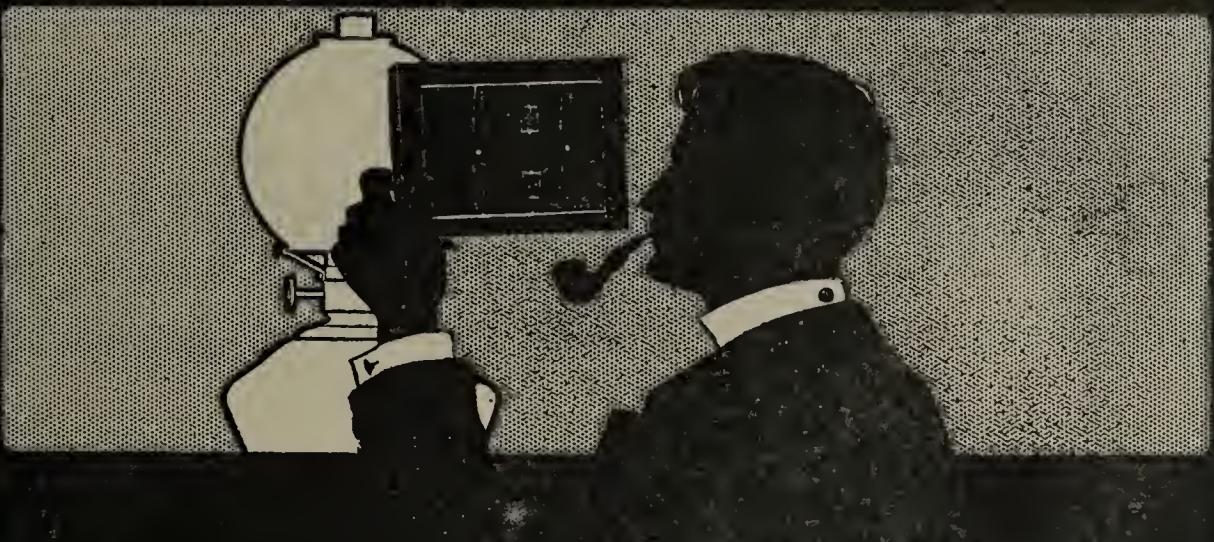
With the Kodak Portrait Attachment and extension focusing scale the camera can be operated up to $3\frac{1}{2}$ feet, thus permitting portraits of a size limited only by the size of the film. By means of an adapter, instantly attached glass plates may be used when desired.

A brilliant reversible finder, spirit level and tripod sockets for both horizontal and vertical pictures round out the remarkably complete equipment.

Notwithstanding the large size pictures made with this instrument, the word Pocket could with but a slight stretch of the imagination have been included in its name as when closed it measured but $2\frac{5}{8}$ inches in thickness by 11 inches in length.

The Price.

No. 4A Folding Kodak,	\$ 35 00
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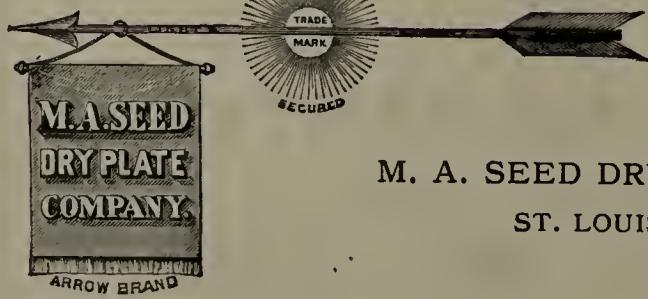
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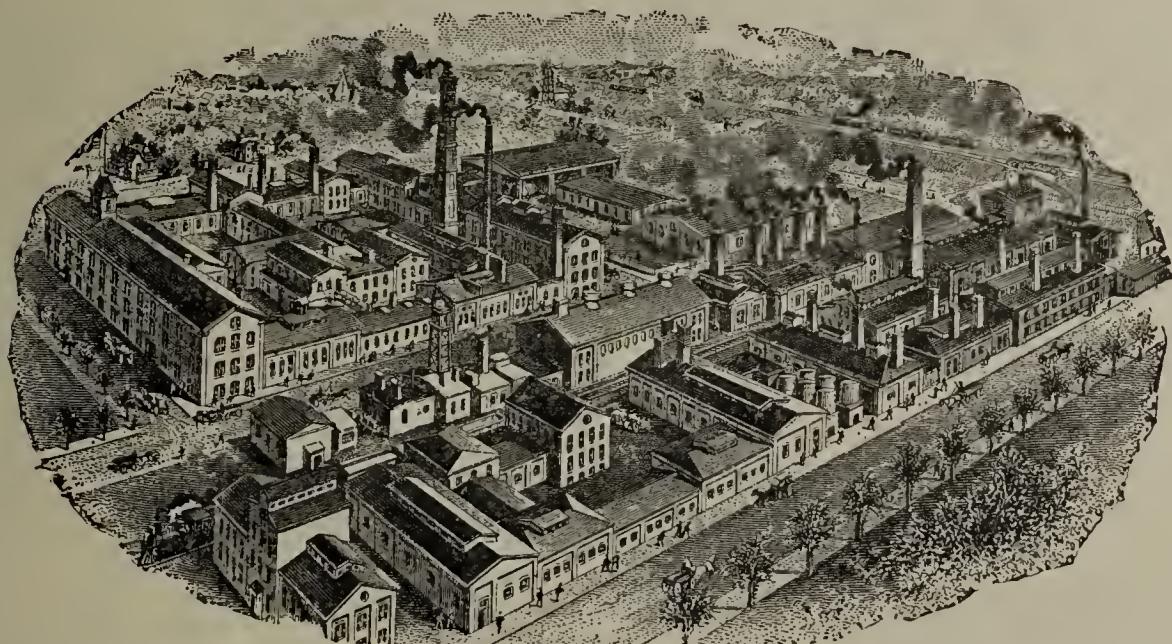
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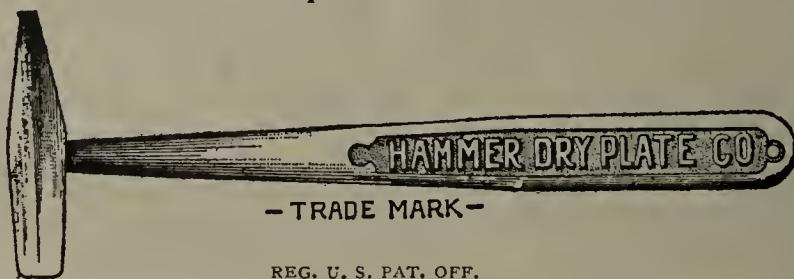
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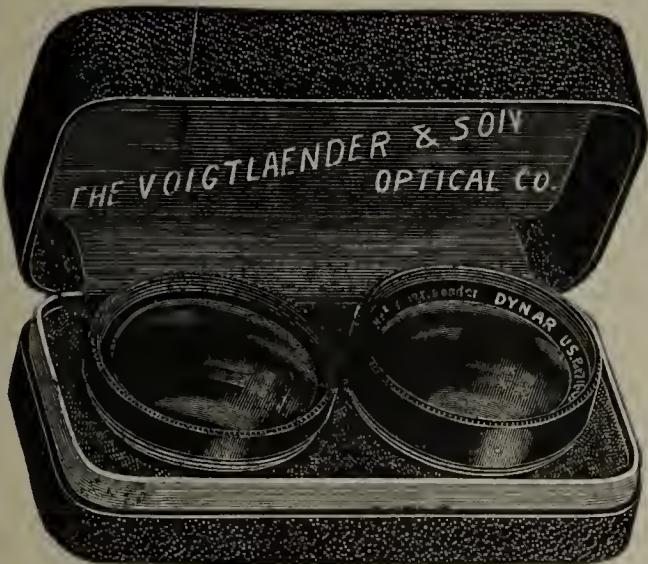
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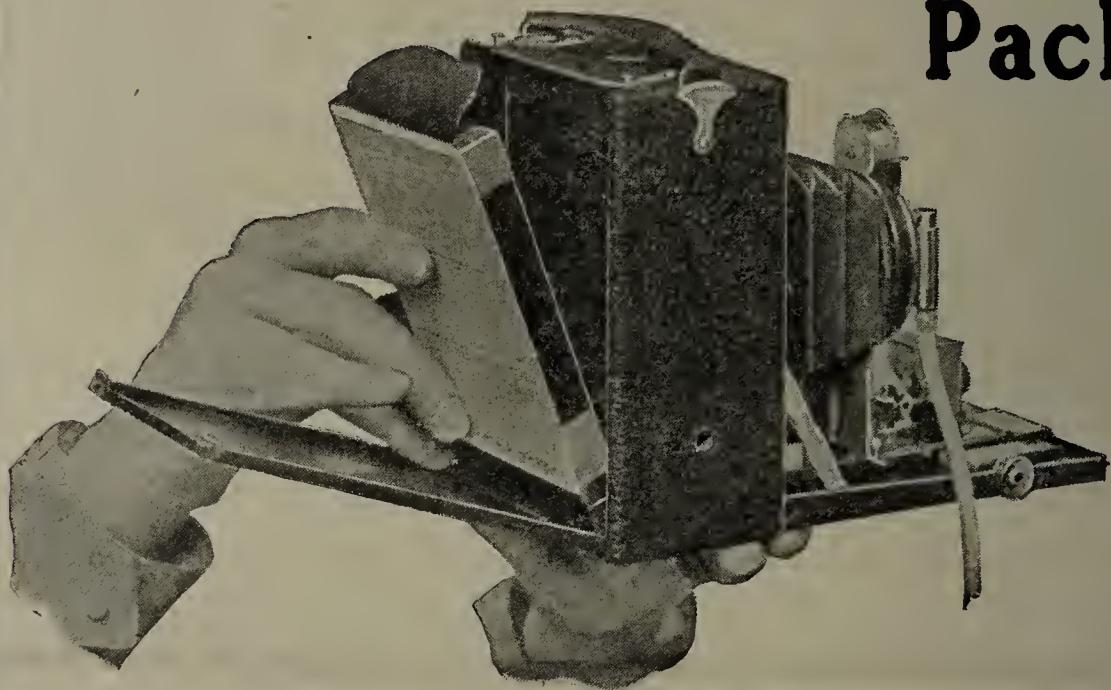
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Rochester, New York

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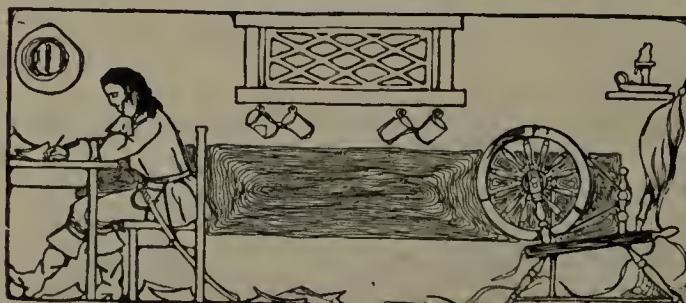
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